MILWAUKEE COUNTY

AUTOMATED MAPPING AND

LAND INFORMATION SYSTEM

c/o Department of
Transportation and Public Works
2711 West Wells Street, Room 427
Milwaukee, Wisconsin 53208-3509
Telephone (414) 278-2176

MEMORANDUM

TO: «prefix» «first_name» «middle_intial» «last_name» «LnameSuffix» «Suffix»
«title»
«organization»
«address1»
«address2»
«city», «state». «zipcode»

FROM: William C. Shaw, MCAMLIS Project Manager

DATE: February 28, 2007

SUBJECT: MCAMLIS 70th Steering Committee Meeting Materials

Enclosed please find materials that the steering committee will take up at it's scheduled March 6th meeting.

I. Meeting Agenda

II. Special Order of Business MCAMLIS 2007 Nomination Committee Report

III. Meeting Minutes of the 69th Steering Committee meeting held November 28th, 2006

IV. Reports

- A. Report materials on the Milwaukee County street address and cadastral map maintenance operations
- B. Report materials on City of Milwaukee cadastral map maintenance operations
- C. Report materials related to the MCAMLIS Enterprise Address Project.
- D. Presentation materials on direction and status of the Wisconsin Land Information Program.
- E. Report materials on the MCAMLIS Topographic Mapping project.
- F. Report materials on the status of the Regional Water Study.
- G. Report materials on 2006 County Surveyor's activities.
- H. Report materials on the status of MCAMLIS Floodland Mapping Project.
- I. Report materials on MCAMLIS Fiscal status**.(to be distributed at the meeting)**

J. Report materials on the status of the Diggers's Hotline implementation activities.

V. Old Business

A. Request by Ms. Karen Jander, Head, Serials Department, University of Wisconsin- Milwaukee Libraries regarding the non-commercial use of MCAMLIS data.

VI. New Business

A. Register of Deeds request for a revision to previously authorized Project Funding Amounts. **(to be distributed at the meeting)**

VII. Correspondence

A. Letter from Philip C. Evenson, Executive Director, Southeastern Wisconsin Regional Planning Commission to William Shaw, MCAMLIS Project Manager regarding MCAMLIS Steering Committee acceptance of an agreement to acquire 2007 color orthophotography for Milwaukee County.

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MILWAUKEE COUNTY AUTOMATED MAPPING AND LAND INFORMATION SYSTEM

Seventieth Steering Committee Meeting

AGENDA

DATE: Tuesday, March 6, 2007

TIME: 9:00 a.m.

PLACE: Milwaukee County City Campus
2711 W. Wells Street
Room 349
Milwaukee, Wisconsin

I. Roll Call

II. Special Order of Business

Election of 2007 MCAMLIS Steering Committee Officers

III. Meeting Minutes

Consideration of the minutes of the 69th Steering Committee meeting held November 28th, 2006.

IV. Reports

A. Report by Milwaukee County Register of Deeds staff on MCAMLIS street address and cadastral map maintenance operations.

B. Report by City of Milwaukee staff on MCAMLIS cadastral map maintenance operations.

C. Report by MCAMLIS staff on the MCAMLIS Enterprise Address Project.

D. Report by David Mockert, Geographic Information Officer, Wisconsin Department of Administration on direction and status of the Wisconsin Land Information Program.

E. Report by SEWRPC staff on the MCAMLIS Topographic Mapping project.

F. Report by SEWRPC staff on the status of the Regional Water Study.

G. Report by SEWRPC staff on 2006 County Surveyor's activities.

H. Report by Michael G. Hahn, Chief Environmental Engineer, Southeastern Wisconsin Regional Planning Commission on the status of MCAMLIS Floodland Mapping Project.

I. Report by Milwaukee County DAS staff on MCAMLIS Fiscal status.

J. Report by We Energies staff on the status of the Diggers's Hotline implementation activities.

V. Old Business

A. Consideration of a request by Ms. Karen Jander, Head, Serials Department, University of Wisconsin- Milwaukee Libraries regarding the non-commercial use of MCAMLIS data.

VI. New Business

A. Consideration of a Register of Deeds request for a revision to previously authorized Project Funding Amounts.

VI. Correspondence

A. Letter from Philip C. Evenson, Executive Director, Southeastern Wisconsin Regional Planning Commission to William Shaw, MCAMLIS Project Manager regarding MCAMLIS Steering Committee acceptance of an agreement to acquire 2007 color orthophotography for Milwaukee County.

VII. Date, time, and place of next meeting

VIII. Adjournment

City of Franklin
Engineering Department
9229 West Loomis Road, Franklin, Wisconsin 53132-9728 (414) 425-7510 Fax: (414) 425-3106

January 5, 2007

Mr. William Shaw
MCAMLIS Project Manager
Milwaukee County Department of Transportation and Public Works
City Campus – Room 427
2711 W. Wells Street
Milwaukee, WI 53208

RE: MCAMLIS, 2007 NOMINATION COMMITTEE REPORT

Dear Mr. Shaw:

Pursuant to the direction of the Chairman of MCAMLIS, I have discussed the nominations for the 2007 term of office for the Chairman and Vice Chairman of MCAMLIS with the other members of the nomination committee – Donald Nehmer and John LaFave.

The nomination committee unanimously selected the following to serve for the 2007 term of office:

Chairman:	Dr. Kurt W. Bauer – Milwaukee County Surveyor
Vice Chairman:	Donald R. Nehmer – Capital Program Business Manager, MMSD

Both of the selected candidates have accepted the nominations.

Please place the nomination committee report on the next MCAMLIS agenda.

Yours very truly,

John M. Bennett, P.E.
City Engineer

JMB/sg

cc: Kurt W. Bauer – SEWRPC
John L. LaFave – Milwaukee County Register of Deeds
Donald R. Nehmer - MMSD

JB\lt Shaw MCAMLIS 2007 Nomination Committee

MINUTES OF THE 69TH MEETING
Milwaukee County Automated Mapping and Land Information System
Steering Committee

Date: Tuesday, November 28th, 2006
Time: 9:00 a.m.
Place: Milwaukee County City Campus
2711 W. Wells Street
Room 349
Milwaukee, Wisconsin 53208

Members Present	
Kurt W.Bauer, Chairman	Milwaukee County Surveyor
John L. La Fave, LIO	Milwaukee County Register of Deeds
John C. Place	Manager Maps and Records, We Energies
Gregory G. High	Director, Architecture, Engineering and Environmental Services Division, Milwaukee County Department of Transportation and Public Works, representing the Director, Milwaukee County Department of Transportation and Public Works
Donald R. Nehmer, Vice Chair	Capital Program Business Manager, Milwaukee Metropolitan Sewerage District
Nancy A. Olson	Enterprise Information Manager, Information and Technology Management Division, City of Milwaukee
Michael Compton	Department of Administrative Services, representing Linda J. Seemeyer, Director, Milwaukee County Department of Administrative Services

Members Absent	
Donald L. Coe	Supervisor, Facilities Location, Customer Operations, We Energies
Kevin S. Anderson	Design Area Manager, Milwaukee Metro North SBC Ameritech-Wisconsin
John M. Bennett	City Engineer, City of Franklin, representing the Intergovernmental Coordinating Council of Milwaukee County

Guests and Staff Present	
Marcia Lindholm	City of Milwaukee, DPW Division of Infrastructure Services
Tammy Bronson	City of Milwaukee, Information and Technology Management Division
Gary Drent	Fiscal and Budget Manager, Milwaukee County, A,E & ES DTPW
Kathleen A. Bach	Milwaukee County Register of Deeds Office
Kevin Bruhn	Milwaukee County DTPW

William C. Shaw	MCAMLIS Project Manager, Milwaukee County DTPW
Reinhard G. Meihsner	SDS

I. ROLL CALL

The sixty-ninth meeting of the Milwaukee County Automated Mapping and Land Information System (MCAMLS) Steering Committee was called to order by Chairman Bauer at 9:00 a.m. Roll Call was taken by circulating an attendance signature sheet and a quorum was declared present.

II. CONSIDERATION OF THE MINUTES OF THE 68TH STEERING COMMITTEE MEETING HELD AUGUST 22ND, 2006

K. Bauer: noted that on pg. 6, V(b) that a motion can not be made by the chair. The motion was then reviewed as part of the minutes and was re-affirmed by consensus.

N.Olson: Motion: to approve the minutes
Second, G.High, Motion carried, unanimous

III. REPORTS

III(a). Report by Milwaukee County Register of Deeds staff on MCAMLIS street address and cadastral map maintenance operations.

K. Bach: reported that the status maps included with the meeting materials are up to date, noting that the areas in gray signify communities that have not been heard of from this year, adding that West Milwaukee is now current and she is working on more recent information received from Greenfield. She is also expecting to receive updates from Fox Point leaving only South Milwaukee the lone community that has not been heard from this year.

W. Shaw: offered that he thought that the improved response was in-part due to the MCAMLIS EAS Project. Adding that this was a good sign.

K. Bauer: asked, what approach could be taken with South Milwaukee and suggested that there may be a need for further contact..

W. Shaw: offered that in other areas South Milwaukee has not been entirely non-responsive. Noting that MCAMLIS has been in communication to provide them various data products.

K. Bach: further reporting, that the cadastral map status is current as of October 1, 2006 and that mapping staff are working on documents recorded in October to November.

K. Bauer: stated for the minutes, that the reports were accepted by consensus and will be placed on file

III(b). Report by City of Milwaukee staff on MCAMLIS cadastral map maintenance operations.

N. Olson: provided that she did not have materials for this meeting. Adding that at the next MCAMLIS meeting she expected to have all of the data converted to the standard format and the City will then begin maintenance operations.

K. Bauer: stated for the minutes, that the report was accepted as given.

III(c). Report by MCAMLIS staff on the MCAMLIS Enterprise Address Project.

W. Shaw: reported that the items provided in the meeting materials were also provided to each addressing authority in Milwaukee County. A series of workshops was conducted on November 15th & 16th by MCAMLIS staff and assisted by Jim Bennett of InfoGeographics Inc. A total of four workshops were conducted on these two days. The workshops were well received, having a total of 44 people in attendance. There were only 3 communities that were not represented in some way, these included River Hills, South Milwaukee and Hales Corners. Hales Corners has since replied and indicated that they were interested but they were not able to attend. In addition, River Hills is now showing some interest in participating leaving only South Milwaukee. Mr. Shaw felt that the project kickoff meetings provided a way to open the door for everyone to discuss how each community currently maintains and manages their addresses, how they would envision an enterprise address system evolution in Milwaukee County and what their overall expectations were. Adding that the next step was to compile notes from the meetings and to share them with the participants. Based on the information gathered, he expected to formulate a project work plan including milestones and would make this available at the next MCAMLIS meeting.

J. Place: asked Mr. Shaw about some of the problems he expected to resolve through a standardized approach and if he could share with the Committee some of the major inconsistencies among the communities?

W. Shaw: in response, stated that the issue is simply that there is not a standardized approach to how address information is managed and made ready for more advanced applications. Adding that for example the City of Milwaukee manages address data differently from the City of West Allis and/or the City of Franklin yet there are many applications e.g., permitting, fire, police, EMS etc. that require current address data across these jurisdictions. Further stating that a Countywide EAS would expect to build a consensus regarding finding solutions and to have the communities either share their existing standards or work with MCAMLIS to develop new standards. Emphasizing that the EAS Project is not expecting to create rigid standards that would require changes in how communities operate within their own systems. Adding the possibility that if developing new standards were found to be necessary, each community may then choose to adopt these for themselves as they normally make adjustments to their current operations. Mr. Shaw then stated that the EAS Project is not expecting to incur any direct cost, our approach would be to focus on transparency. His overriding sense was that the representatives of the Milwaukee County Addressing Authorities were in agreement that there needs to be a definitive and reliable place to manage countywide addressing.

N. Olson: indicated that she was surprised that many of the communities did not have addressing systems available to them. Adding that the City of Milwaukee has 300,000 address in it's database and uses these extensively across city government. Further questioning how other community's managed without a similar source of data?

W. Shaw: concluded that this was an opportunity for MCAMLIS to get it's message in front of the communities and to present what MCAMLIS does and what our plans are for the future. Adding that he felt that the message was well received.

K. Bauer: stated for the minutes, that the report was accepted by consensus and will be placed on file

III(d) Report by MCAMLIS staff on the status of License Agreements executed on behalf of the Utilities Subcommittee.

W. Shaw: reported that the meeting materials included a copy of a report showing license activity dating from 2004 thru late October 2006 . The materials included a list of licensee data requests for MCAMLIS data through this period. Noting that there was an increase of activity in 2006 regarding licensing and that there appeared to be a growing emphasis on acquiring digital data for a range of projects. Further speculating that this may signal what could possibly be coming through the door in the future. He also pointed out that the report analysis showed who was asking for materials over time and what types of data products had been requested including details from the beginning of April'06 through the end of 2006. Further noting that there was activity in all areas of MCAMLIS mapping products, but perhaps more so in cadastral data requests due to the recent implementation of a more uniform way of managing and producing cadastral information. Concluding that there was a significant amount of activity related to providing data directly to Milwaukee County communities.

J. LaFave: inquired whether requestors inform MCAMLIS regarding the purpose of the request.

W. Shaw: replied that generally the Licensee provides some type of use information along with the request.

K. Bauer: stated that Milwaukee Seven will open their resource center in the old WE Energies headquarters building and that they would also be opening a website. He then inquired if they had requested data and if they were using MCAMLIS materials?

W. Shaw: in answer to Mr. Bauer stated that the Milwaukee Seven organization is represented within non-profit license holders and is actually licensed as Milwaukee Development Corporation. Further stating that they had

requested an updates of a range of MCAMLIS data products and these have all been provided. Adding that they are expected to request regular updates in the future.

K. Bauer: stated for the minutes, that the report was accepted by consensus and will be placed on file

III(e). Report by MCAMLIS staff on updates to the Wisconsin Land Information Program

W. Shaw: provided information included with the meeting materials regarding activities of the Wisconsin Land Information Program. Briefly stating that there were modifications of the land information administrative rules where it is now possible to provide base budget grant awards to counties with retained fees below $50,000. Adding that Milwaukee County is not eligible for these grants due to revenue above $50,000. Noting that public hearings were held on August 2, 2006 and final approval by the Economic Development Consumer Affairs Committee is pending.

W. Shaw: then added that the State Program staff is in the initial stages of developing plans for 2007 and that he expects, but has not received, additional correspondence in this regard. Noting that Mr. Lafave normally forwards materials that pertain to the program to Mr. Shaw's attention. Adding that he had also included a State Report showing the annual retained fees for each County that participates in the WLIP. Noting that Milwaukee County is at the top of the revenue list, second is Dane County at nearly $300,000 less than Milwaukee's annual earnings.

J. LaFave: noted that each County contributes $2 of each recording fee to the State to fund these base budget grants. Further adding that the top three Counties (Milwaukee, Dane and Waukesha) are the principal source of funds supporting the grants to the rest of the counties. Concluding that these distributions help counties who otherwise wouldn't have much.

N. Olson: inquired as to the opportunity for the Milwaukee County to receive grant funds?

W. Shaw: replied that within the current Administrative Rules there is none. Adding that the Milwaukee County is eligible for a $300 training grant, which is normally granted each year.

G. High: noted that there is a new State Geographic Information Officer.

W. Shaw: in response to Mr. High, informed the Committee that Mr. Dave Mockert was recently hired as the new Geographic Information Officer for the State. Adding that Mr. Mockert visited Milwaukee County and provided an opportunity for staff to discuss with him his plans for the State. Further adding that Mr. Mockert was able to talk to Ms. Olson's staff at the City of Milwaukee as well.

G. High: inquired about the working relationship between the State Cartographer's Office and the new State Geographic Information Officer. Noting that the State Cartographer is primarily concerned with mapping but questioned how this may be involved with geographic information?

W. Shaw: replied that there is not an organizational line between the two offices but that it is likely that the GIO takes under advisement information from the Wisconsin Land Information Association and the State Cartographer's Office regardless of the line of reporting. Further adding that from his earlier discussion with Mr. Mockert that it was Mr. Shaw's opinion that the GIO would be concentrating a lot of his effort on Homeland Security issues and possibly attempting to establish a means of collecting local information in order to consolidate this into a common access point for emergency management activities.

N. Olson: added that in her discussion, Mr. Mockert mentioned working with DOT and DNR in an attempt to coordinate data sharing between these agencies.

W. Shaw: noted that Mr. Mockert had offered to come to a MCAMLIS Steering Committee meeting and present his vision for the Land Information Program directly to the Committee.

K. Bauer: inquired whether the Committee wanted to request that Mr. Shaw invite Mr. Mocker to a future meeting to brief the committee?

J. LaFave: supported having Mr. Mockert come to a committee meeting. Adding that he had attended the earlier meeting with Mr. Mockert and that he found it interesting and that it might be helpful to have the Committee hear a similar information directly from the GIO.

K. Bauer: hearing no objections, instructed Mr. Shaw to invite Mr. Mockert to a future MCAMLIS Steering Committee meeting.

Secretary's Note: Mr. Dave Mockert, State of Wisconsin Geographic Information Officer has accepted an invitation to attend the MCAMLIS Steering Committee meeting scheduled for March 6th, 2007

K. Bauer: stated for the minutes, that the report was accepted by consensus and will be placed on file

III(f). Report by SEWRPC staff on the MCAMLIS Topographic Mapping project

K. Bauer: stated that the meeting materials included a staff memorandum setting forth the status of the mapping project. Reporting that the status map attached to the report, describes an area where the digital terrain model and the topographic map files have been accepted and reviewed and, manuscript editing has been completed. Further stating that field checks in this area are in progress at the present time and samples of tile sheets are drawn and the details are being checked in the field. Further reporting that a second area is underway with field checks in progress and this will be completed by year-end. Concluding that the remaining portion of the project, with the exception of the Marquette Interchange and the Canal Street Corridor, is expected to be completed through Spring 2007.

W. Shaw: offered that MCAMLIS has received the first area even though the status maps indicate they are still in the process of being field checked. Further adding that MCAMLIS has received the majority of T5N-R21E including most of the City of Franklin. Adding that this is expected to be formally delivered to MCAMLIS in the Spring 2007, and that he has received a preliminary copy which has been made available to the City of Franklin. Also noting that included in the meeting materials is a correspondence regarding an exchange between Mr. High and the DOT project manager for the Marquette Interchange confirming that it is likely that the Topographic mapping for the Marquette Interchange will be completed using 2009 photography due to the current progress of the Marquette Interchange re-construction project.

K. Bauer: instructed Mr. High to watch this progress and if it were to sufficiently advance by the spring of 2008 MCAMLIS would have to know ahead of time, otherwise it would have to be the spring 2009.

N. Olson: inquired about how communities would be notified as new data becomes available?

W. Shaw: replied that he has not developed a mechanism to distribute preliminary data at this time. Adding that if any community requested topographic updates, that he would provide them the most current data. Further adding that at some point he would need to develop a means to notify each community and allow them to take delivery or wait until they needed it. Noting that in some cases the communities do not have a mapping organization and contract with engineering firms for their city engineering services.

K. Bauer: instructed Mr. Shaw to consider how/when to notify the communities. Suggesting that this would best be performed when the maps are completed. Requesting that Mr. Shaw report back to the Committee on this matter at a future meeting.

K. Bauer: stated for the minutes, that the report was accepted by consensus and will be placed on file

III(g). Report SEWRPC staff on the status of the Regional Water Study.

K. Bauer: noted that the last page of the report included with the meeting materials has a bar chart, which shows the project progress.

K. Bauer: stated for the minutes, that the report was accepted by consensus and will be placed on file

III(h). Report by SEWRPC staff on the status of MCAMLIS Floodland Mapping Project.

K. Bauer: noted that the last two pages of the report included with the meeting materials provide a summary of the report.

W. Shaw: noted that the floodland mapping was shown as substantially complete in Phase 1 for a number of items. Inquiring, as to what remains to be completed in this phase and whether the product was in a form that MCAMLIS could distribute?

K. Bauer: offered that he felt there were numerous problems with this project e.g., that some of this work is being driven by the FEMA requirements; that project staff resources are at times re-prioritized to serve individual community flood mapping data requests; and there were resource constraints due to sewer district(MMSD) requests to update the FEMA flood hazard maps in many communities. Further adding that he had issues regarding mapping being done on the old topographic maps. Stating that instead these should be compiled using the MCAMLIS maps that are now being delivered.

W. Shaw: observed that Mr. Daniels, City of West Allis Engineer was highly critical of the FEMA maps as they were presented to him from DNR because they did not represent what he thought was newer and more current data.

K. Bauer: offered that this raises the question about whether to go through the public review and hold meetings on maps that really will reflect very little or no change between what is now on file. Suggesting that this may be an issue that perhaps the MCAMLIS Committee would want to address at some future meeting when all the topographic maps have been delivered. At which time MCAMLIS would want to discuss potential uses for those maps.

W. Shaw: inquired about whether to expect newer mapping in Phase 2?

K. Bauer: instructed Mr. Shaw to convey this to Mike Hahn. Stating that he felt that where the Floodland mapping has not yet been completed, that it is his opinion, that this should be completed using the new topographic maps.

K. Bauer: stated for the minutes, that the report was accepted by consensus and will be placed on file

III(i). Report by Milwaukee County Staff on the 2007 MCAMLIS Budget and Fiscal report on MCAMLIS through 2006.

M. Compton: provided the Committee with a copy of his report at the meeting. Reporting that Revenues and Expenditures as of 11/20/06 MCAMLIS show a balance of $286,168.37. Further reporting that the authorized $1 fee projects as provided by Mr. La Fave include balances of projects that are in progress and those that have been closed. Of these there were four completed projects dated 2002 and 2003 and four open projects that are still in development stages. Finally the $4 fee projects shows two projects remaining with unpaid balances. Concluding that many of these projects are ongoing or in progress.

J. LaFave: requested that the notation regarding the $1 fee projects "Data from John La Fave, Register of Deeds as of 8/21/06" should be as of 11/20/06. Noting that the MCAMLIS revenues depend on the number of documents recorded in the Register of Deeds Office which is expected to fall short of the estimated 216,000 by 3,000 to 7,500 documents. Adding that much of this shortfall will depend on staff performance thru the end of the year. Noting that falling short by 7,500 documents would amount to a $30,000 shortfall in the $4 retain fee portion.

K. Bauer: inquired as to whether the shortfall was due to fewer documents or to a backlog of documents that haven't been recorded?

J. LaFave: replied that both of these situations were true. Adding that the backlog is a result of staff inefficiencies as well as disruptions to his software system. Noting that he was using MCAMLIS authorized funds to hire a technical consultant to make recommendations for improvement to his system. Concluding that the current backlog is about 6 days with 23 business days remaining in the year.

K. Bauer: noted that MCAMLIS will receive the backlogged recording fees either this year or next but that he thought the more serious shortfall may be related to a decline in the number of documents that are presented for recording.

M. Compton: added that DAS would not close the 2006 books until the later in February. Adding that if the Register of Deeds was able to catch up with the backlog that the revenue could materialize and cover the budgeted target for '06.

K. Bauer: stated that the committee took action regarding the establishment of a reserve fund in the amount of $110,000. Inquiring as to how or if this needs to be reflected in this fiscal report?

M. Compton: stated that the formal establishment of a segregated reserve would require County Board approval. Asking if this would be the recommendation of the Steering Committee to the County Board.

K. Bauer: instructed that this would be informal (not requiring County Board approval).

M. Compton: agreed to include a line in his report at the next meeting.

N. Olson: inquired as to why the budget document is presented at the meeting and not included in the materials prior to the meeting?.

M. Compton: apologized, adding that he will have it available in time for the distribution of the MCAMLIS packet

K. Bauer: stated for the minutes, that the report was accepted by consensus and will be placed on file

III(j). Diggers Hotline

R. Meishner: updated the Committee on progress regarding Diggers Hotline. Reporting that the Diggers Hotline Board has met three times since the last MCAMLIS meeting. Adding that he had presented the Diggers Hotline report approved by the Steering Committee to the directors at Diggers Hotline and requested and received approval to proceed. He now plans to coordinate with Diggers Hotline personnel and finalize a contract agreement that will support implementation for Southeastern Wisconsin including Dane County. Further adding that this will be implementing the same process that was recommended in the report for all the counties in Southeastern Wisconsin. Adding that this represents most of the growth area in the State of Wisconsin and noting that the proposal includes a phase for Milwaukee Count, phase for the balance of Southeastern Wisconsin and a phase of the State of Wisconsin. Concluding that Diggers Hotline has agreed to at this time is to do all of Southeastern Wisconsin.

K. Bauer: requested that Mr. Meishner elaborate on what the project is expected to accomplish?

R. Meishner: offered that he intends to work with Mr. Bennett to get local ordinances passed, at the municipal level, requiring each municipality to forward new subdivision and CSM street and address information to the Register of Deeds Office as soon as they receive plan approval. Adding that ROD will be responsible to transmit this information on to Diggers Hotline. Speculating that this process will decease the time it takes to update Diggers Hotline from months to little more than a week.

K. Bauer: wanted to know who would prepare the required model ordinance?

R. Meishner: replied that he intended to prepare the model ordinance.

K. Bauer: requested of the Committee whether it wanted to play a role in presenting this ordinance to the 19 municipalities in Milwaukee County.

W. Shaw: offered that he thought that it was in the best interest of the Committee to collaborate with Mr. Meishner to implement this project since it was closely related to the MCAMLIS EAS Project initiative.

K Bauer: requested of the Committee whether it wanted to review and comment on the model ordinance? Recommending that he thought that the Committee should indicate whether they have an interest in that or not. Adding that he considers this a project that rests with Diggers Hotline.

N. Olson: noted that the City sits on the Digger's Hotline Board and that from her perspective it was not necessary for the Committee to oversee the ordinance process

G. High: suggested that the Committee would like to receive a Digger's Hotline status on future Committee agendas.

K. Bauer: stated that based on member comments that the Committee does not want to review the ordinance and that it wished to have an item placed on the agenda to keep the Committee informed of the progress.

IV <u>OLD BUSINESS</u>

IV(a). Consideration of MCAMLIS staff recommendation to the MCAMLIS Steering Committee regarding the acquisition of oblique "Pictometry" image products.

W. Shaw: presented a staff recommendation regarding a City of Milwaukee request for MCAMLIS to consider acquisition of the Pictometry oblique digital viewing system. Stating that the recommendation focused attention on Pictometry's ongoing value and utility regarding existing Milwaukee County mapping products including the digital orthographic, topographic and cadastral mapping programs. Further noting that the report and recommendation focuses on what adding Pictometry would mean to the MCAMLIS program rather than an evaluation of Pictometry's potential uses and benefits.

Continuing, Mr. Shaw noted that successful implementation would constitute an investment over many years requiring the need to provide ongoing funding for the current products in addition to this and possibly other obligations. He highlighted the opportunities for Pictometry's compatibility with existing MCAMLIS products and noted that the Pictometry product is not able to be directly integrated with previous products such that they can be viewed natively together. Notwithstanding he noted that there were considerable opportunities to make use of the product, and mentioned that some forms of mapped information could be viewed along with the Pictometry images and when used appropriately could be an advantage when applied in specific applications.

Further reporting that Pictometry provides a form of digital ortho-imagery that is loosely comparable to the MCAMLIS digital orthographic base. Adding that Pictometry orthographic mosaic images do not compare favorably with the precision of traditional large scale engineering and mapping applications. He noted that Pictometry has acknowledged this limitation and is taking action to incorporate more accurate ortho-rectification methods that utilize locally obtained elevation and survey control information. Adding that if these improvements are acceptable that there is the possibility of considering Pictometry's ortho-photo base products in future MCAMLIS image acquisitions and/or as part of the 2010 regional project.

Mr. Shaw discussed various deployment options noting that adding this product to the MCAMLIS suite will have an impact on the overall management of MCAMLIS data. Noting that there are three basis methods available to deploy Pictometry; (1) via a secure web access, (2) a local network, (3) via a standalone workstation. Further stating that MCAMLIS data is currently deployed using local network access on a client file server or standalone workstations in cases where municipalities do not have an appropriate network capability. Adding that regarding web access, MCAMLIS will be initiating the development of a secured web access capability as part of the Milwaukee County Land Information Plan.

Mr. Shaw then stated that there is no suitable web access capability available to deploy Pictometry at this time and that this would be at least 6 – 12 months away. Noting that staff believes that web deployment would provide the best method to make the technology available and afford the greatest overall benefit to users of the data. Adding that this approach would provide for a uniform ubiquitous user access that would minimize the need for managing ongoing support. Further adding that other approaches would present logistical and material issues regarding a non-web accessible product.

Mr. Shaw enumerated several of the issues that would need to be addressed e.g., determining who or what organizations would receive copies; establishing software and hardware capabilities and compatibilities; and/or determining whether there would be a need or desire for standardized HW/SW components. Continuing, that all 19 communities would be involved with this product and speculating that providing for the greatest benefit would present numerous logistical issues to be overcome. Adding that there would be costs beyond the initial product investment of between $5,000 and $10,000 to allow for web-enabling and ongoing costs between $2,000 and $5,000 a year to maintain the web environment. Emphasizing that a compelling reason for adopting a web deployment into the future would be that there would be no need to monitor usage and that users could have ready access to the product.

Mr. Shaw noted that MCAMLIS had considered Oblique Imagery in the Milwaukee County Land Information Plan under "Foundational Elements: Statewide standards", subparagraph "Geographic Reference Frameworks" item "Image Bases" where oblique imagery is included as a possible future product. Adding that this product is in accordance with the intent of the plan. Stating that for the period 2004 through 2006 that the Committee had authorized over $235,000 in high-resolution ortho-photography including partial ortho-photography coverage in 2004, 2005, 2007 and in 2009. Further adding that the Committee has approved partial funding of 2007 ortho-photography which is heavily subsidized by the US Department of Homeland Security. Noting that 2009 will also begin the planning for the next Regional Planning Commission five year planning cycle. Concluding that based on efforts dating from 2004 thru 2010 that MCAMLIS has or will acquire some measure of ortho-photography in each year with the possible exceptions of 2006 and 2008.

Mr. Shaw further noted that in 2006, Microsoft Corporation purchased copies of Pictometry oblique images and making them available at no cost to the public through their Virtual Earth web-site. Further adding that these are the very same images that are being considered by the Committee at this meeting today. Noting that the City of Milwaukee Assessor's office has entered into a two year contract with Pictometry for this same imagery for limited use by assessors for $8,016 a year.

Mr. Shaw then concluded by recommending three options to the Committee for consideration: option one, the county-wide assessor option, which would have the MCAMLIS Committee consider underwriting the City of Milwaukee Assessor's Pictometry contract for the first year of the City of Milwaukee contract. Noting that this would allow for an opportunity for MCAMLIS to further evaluate Pictometry for future purposes; option two, would have the MCAMLIS Committee consider further funding of the Assessor's contract into year two of contract and possibly acquire a county-wide license with Pictometry including a new 2008 flight. Noting that this option is recommended on the basis of a favorable finding by the Assessor's; and option three, recommends that MCAMLIS delay approval and negotiate a new contract as part of the SEWRPC 2010 regional planning cycle.

K. Bauer: inquired as to whether the assessor's Pictometry license would be available for the whole county?

W. Shaw: replied that availability would be restricted to assessor's across the entire county.

G. High: inquired as to whether there were other municipal assessors currently working with the City of Milwaukee?

N. Olson: stated that the City of Milwaukee Assessor has discussed this with other municipalities including Wauwatosa and Cudahy.

N. Olson: adding that she was disappointed that the staff appeared to ignore the advantages of the Pictometry product for purposes of county-wide access which would include planning and development, MMSD, etc. Noting that rather than viewing Pictometry as a competing product she would consider it more appropriately as an addition to the existing MCAMLIS products allowing the ability for municipalities who do not currently have the capability to use MCAMLIS data to participate by using the parcel map etc. Adding that even though the City of Milwaukee has a robust GIS capability there are many areas within the City of Milwaukee where she expects that this product would improve usage of all MCAMLIS data including the existing digital ortho-photography. Concluding that Pictometry is an appropriate product to add to the MCAMLIS suite of products and that the Committee should consider it, if not immediately for county-wide, then at a later date.

J. LaFave: asked if the staff was recommending that MCAMLIS minimally fund the City of Milwaukee's Assessors office first year?

W. Shaw: replied, that Mr. LaFave is correct.

J. LaFave: asked Ms. Olson if she would recommend a different license be purchased that goes beyond the assessors?

N. Olson: replied, that the City of Milwaukee Assessor entered into this agreement with Pictometry for use only to assessors for $8,016. Adding that to purchase the product for the entire county for all the municipalities and to include development and planning, public safety, engineering departments, etc. the cost is $47,000 annually.

G. High: recalled that when Pictometry came up previously that the discussion focused on usage by the Sheriff. Noting that from the standpoint of public safety it would be possible to evaluate the faces of the buildings as opposed to the tops of the building and that this was viewed as an enhanced tool for security. Asking if the assessors use is similar?

N. Olson : replied that there were numerous examples where Pictometry would enhance the ability to correctly assess properties without needing to go into the field. Adding that with traditional ortho-photography an assessor may observe three properties that look identical each having a small extension on the back of the house. But when you look at it from a oblique perspective you can see that one of them is a concrete slab, one of them is a carport with open sides and one is a full three season porch. Noting that from the assessor's standpoint this allows them to more accurately assess properties and save time in the field.

D. Nehmer: asked how would the county-wide product be deployed?

N.. Olson: stated that deployment would require loading it on a network and making it available.

W. Shaw: stated that he believed that some municipalities would be unable to provide service across their networks. Adding that he had spoken with the GIS manager in Rock County, WI and Johnson County, MI and both had stated that they had experienced performance problems due to the size of the files being brought across their networks. Further adding that simple 'pans' across the Pictometry image require constant data accesses across the network. Noting that Pictometry recommends that each workstation (not network) installation have a local disk drive capable of storing the entire set of data thus alleviating the need to draw large amounts of data across the network.

N. Olson: stated that the City of Milwaukee Assessor's copy was installed on their network.

W. Shaw: commenting that the options recommended by staff constitute a progression of steps that allow the opportunity to evaluate the findings of the County's Assessor offices. Adding that assessment practices would be a very good application to test the utility of this product for the purposes that Ms. Olson has identified. Further adding that if the County's Assessor Offices are able to easily assimilate this into their operations that it would serve as proof of concept and there would be no questions about it being of benefit in other areas. Further commenting that if the decision was to unilaterally bring it on board and say "here it is" experience has shown that the capability inherent within Pictometry won't be fully utilized. Adding that MCAMLIS could then find itself in the position to have to further promote and support the new product in order to make organizations more aware of it's capabilities or alternatively it would just sit on the shelf.

Motion J. LaFave: moved to adopt option 1 which is set forth on page 7 of the staff recommendation, providing for MCAMLIS to fund $8,016 for the 1st year, permitting the product to be utilized not only by the City of Milwaukee Assessor but

also by the assessors in other Milwaukee County communities. Approval of this option allows that the Committee would then consider further options after evaluation of the County Assessor's experience thru the 1st year.

Second, G.High, Motion carried unanimous

V. New Business

V(a). Consideration for a 2007 agreement for MCAMLIS project management and map maintenance services between MCAMLIS and Milwaukee County DTPW.

W. Shaw: introduced a renewal to an agreement between MCAMLIS and Milwaukee County DTPW outlining the scope of work provided by the County to the MCAMLIS Steering Committee. Adding that this agreement is substantially the same except that this work is beginning January 1, 2007 thru December 31, 2007. Further stating that the agreement is for $303,000 , $214,000 is assignable to DTPW for support of MCAMLIS staff and other incidental activities and the MCAMLIS Cadastral and street maintenance performed by the Register Of Deeds for a cost of $89,000.

Motion N. Olson: moved to accept the agreement for the $303,000
Second, J. LaFave: Motion carried unanimous

V(b) Consideration of a 2007 agreement for MCAMLIS fiscal oversight between MCAMLIS and Milwaukee County DAS

M. Compton: offered that this is a standard contract between MCAMLIS and DAS for support provided to perform contracting, monitoring, financial management and reporting to the MCAMLIS Steering Committee. Adding that it is for the full 2007 fiscal year.

Motion J. LaFave: moved to adopt agreement
Second, G. High, Motion carried unanimous

V (c). Consideration of a 2007 agreement for Milwaukee County Surveyor services between MCAMLIS and SEWRPC

Motion N. Olson: moved to adopt agreement
Second, G. High, Motion carried unanimous

V(d). Consideration of a 2007 agreement for map maintenance services between MCAMLIS and the City of Milwaukee

N. Olson: explained that the agreement was for a period of from July 1, 2007 to December 31, 2007 . Offering that an earlier agreement approved by the committee in February covered the 1st six months of the year and this agreement will cover the remainder of 2007.

Motion J. LaFave: moved to adopt agreement
Second, G. High, Motion carried unanimous

V(e) The appointment of a nominating committee to recommend a slate of officers to the Steering Committee at it's next regular meeting.

K. Bauer: stated that he would ask Mr. Bennett to Chair the committee, ask Mr. LaFave if he would be willing to serve on it and Mr. Nehmer to serve on it. Noting that in the absence of Mr. Bennett that he would need to be informed of his assigned duties.

VI. Correspondence

VI(a). Letter from Ms Karen Jander, Head, Serials Department, University of Wisconsin-Milwaukee Libraries to Mr. William Shaw, MCAMLIS Project Manager regarding the non-commercial use of MCAMLIS data.

W. Shaw: explaining that prior to our August 22, 2006 meeting he had a conversation with Ms. Karen Jander of UWM-Milwaukee Libraries and as with previous attempts she wanted to know if there was an opportunity for Committee to reconsider the indemnification clause included as part of the MCAMLIS license agreement. Ms. Jander contends that this clause is causing the UWM-Milwaukee libraries to annually purchase a $2,900 insurance policy to protect them against the liabilities of any unauthorized distribution of our data by a student. Mr. Shaw noted that he understood that the committee has taken this up in the past and that it is again being brought to the Committee's attention. Further noting that it has been 2 years since the Committee considered this.

K Bauer: remarked that in addition to revisiting the licensing agreement provisions at some future meeting, that this issue rests primarily with the utilities. Noting that reconvening the utilities sub-committee may be required at some future time which would necessitate getting AT&T involved. He inquired why the committee couldn't waive that part of clause 7 that relates to indemnification. Adding that the Committee may want to ask Mr. Shaw to look into doing just that and determine if there is a way to provide balance to the policy. Further noting that it would remain up to the Committee to enforce the policy but that Ms. Jander appears to feel that if part of that clause was struck she wouldn't be required to purchase insurance .

N. Olson: questioned whether striking the clause would effectively hold the Committee responsible?

J. Place: suggested that perhaps this is something our legal staff would want to review.

W. Shaw: asked Mr. Place if this would be something that We Energies legal staff could review and bring back to the Committee?

J. Place: agreed to ask We Energies legal department to consider this matter.

M.Compton: offered that he would see that Milwaukee County Corporation Counsel provided their opinion as well.

K. Bauer: noted that the Committee has requested DAS and We Energies to contact corporation counsel to get their advice as to how MCAMLIS could possibly help the University. He instructed Mr. Shaw to notify Ms. Jander and inform her that the committee is sympathetic to her plight and is looking into ways to find relief for the University.

VI(b). Letter from Michael F. Pertner, Chairman, Milwaukee Area Public Works Officials Associations to Mr. Bill Shaw, MCAMLIS Project Manager regarding a MCAMLIS presentation given to the MAPWOA meeting held 9/21/2006.

VI(c). Email note from Tracy P. Gillian, P.E. Marquette Interchange Project Design Project manager to Mr. Greg High, P.E. Director, AE&ES Division, Milwaukee County DTPW regarding the MCAMLIS Topographic Mapping completion schedule.

K. Bauer: instructed Mr. High to watch out for the possiblity to compile in the Spring 2008 instead of 2009.

VII Date, time and place of next meeting

W. Shaw: requested that the next meeting be held Tuesday, March 6, 2007 @ 9:00 am City Campus, room 349

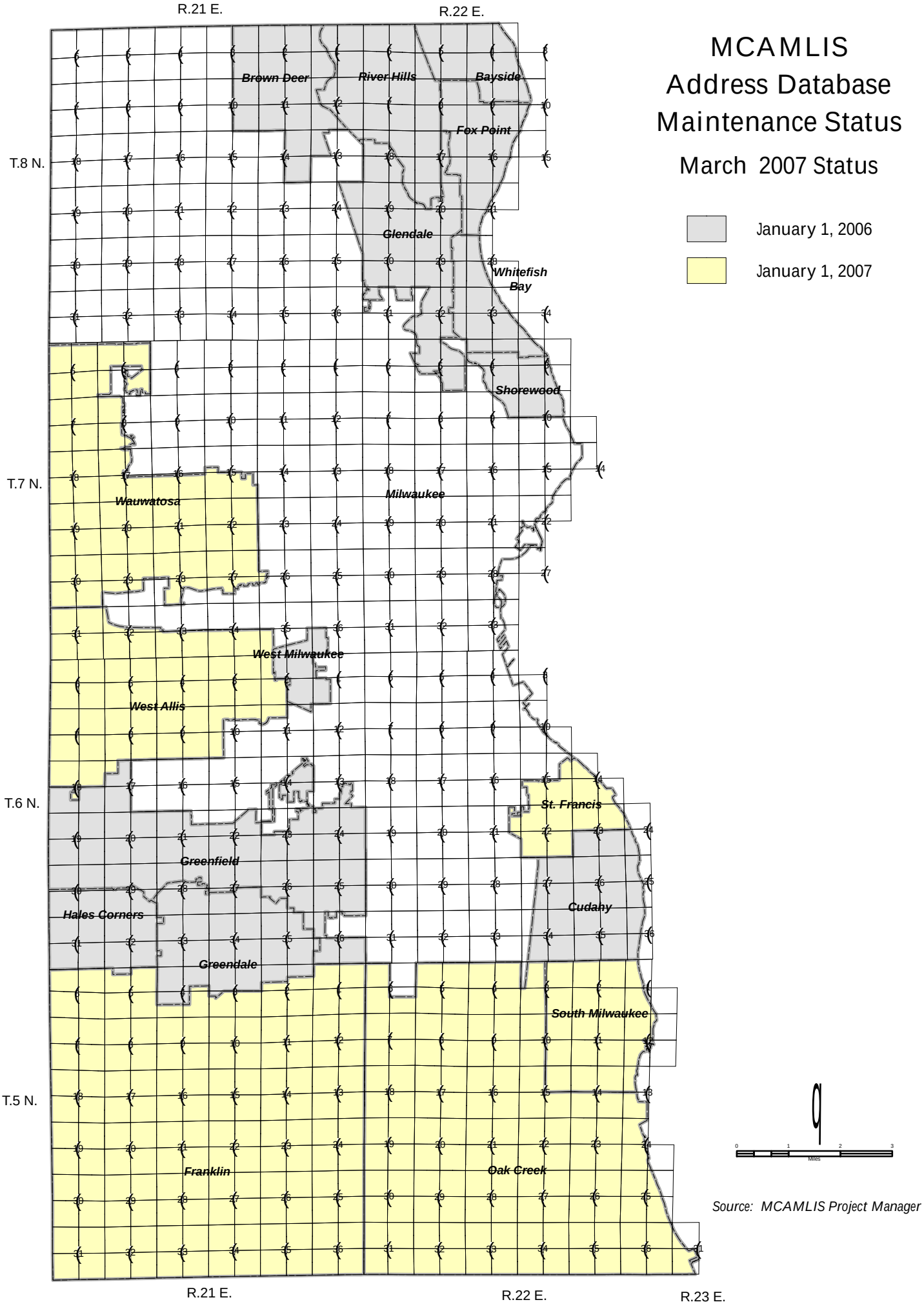
VIII Adjournment

Motion N. Olson: moved to adjourn
Second, J. Lafave, Motion carried unanimous

Meeting is adjourned

Respectfully submitted

William C. Shaw
MCAMLIS Project Manager



MCAMLIS
Address Database Maintenance Status

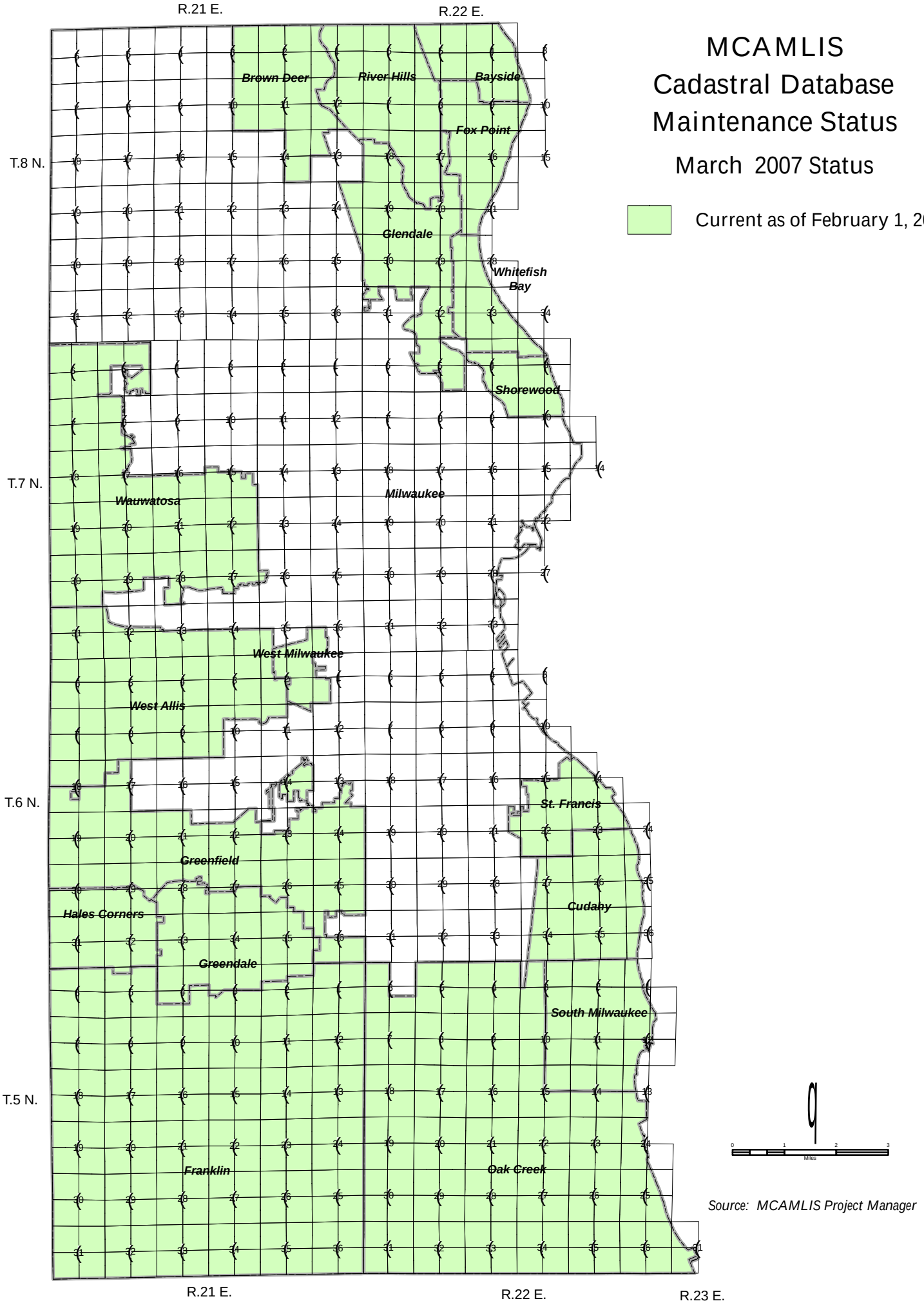
March 2007 Status

January 1, 2006

January 1, 2007

0 1 2 3
Miles

Source: MCAMLIS Project Manager



MCAMLIS
Cadastral Database Maintenance Status

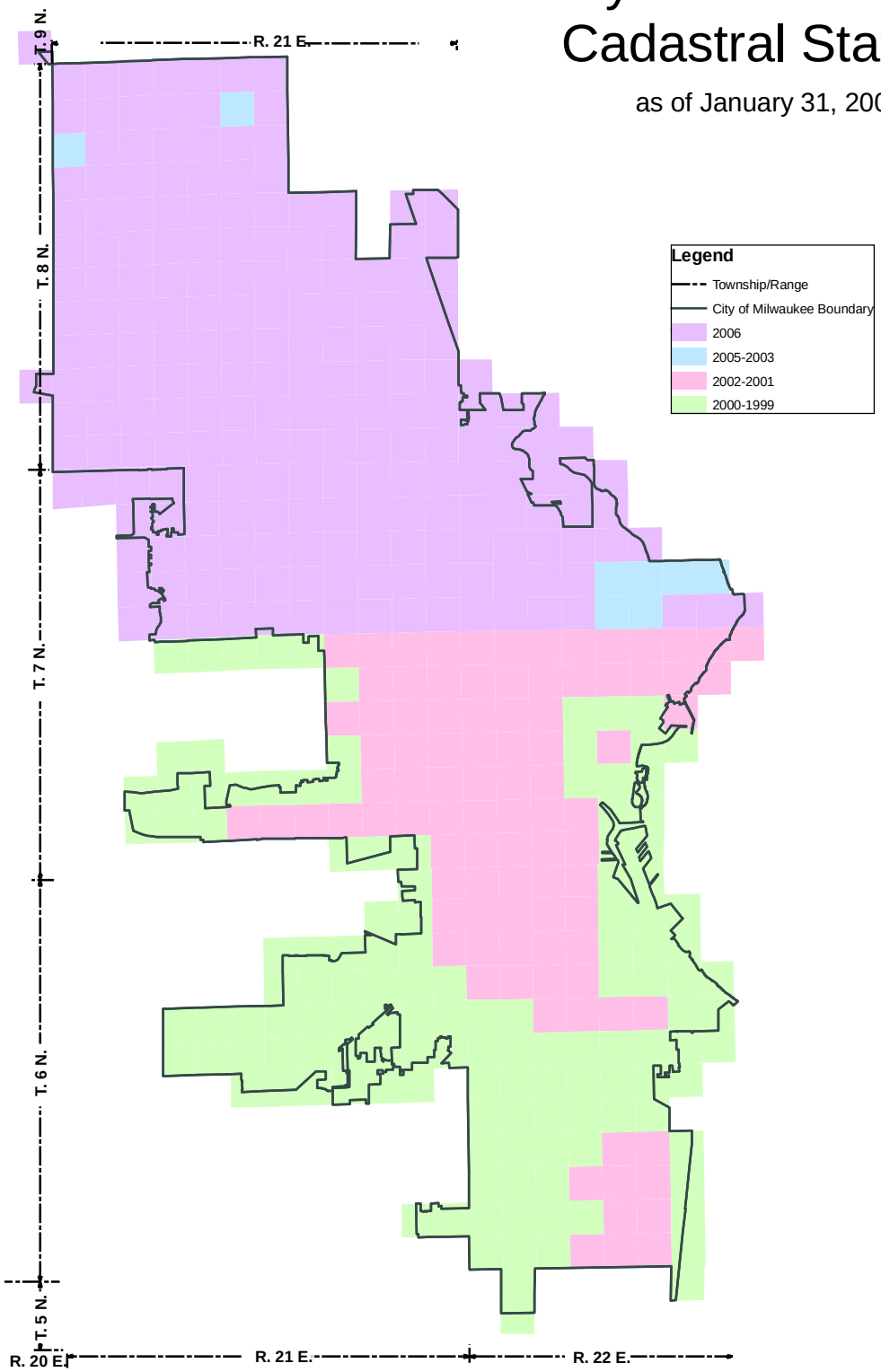
March 2007 Status

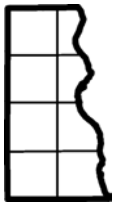
Current as of February 1, 2007

Source: MCAMLIS Project Manager

City of Milwaukee Cadastral Status

as of January 31, 2007





MILWAUKEE COUNTY

AUTOMATED MAPPING AND

LAND INFORMATION SYSTEM

ENTERPRISE ADDRESSING SYSTEM
PROJECT WORK PLAN

The following phases and tasks comprise the Enterprise Addressing System Project Work Plan. These include task descriptions, deliverables, and elapsed time estimates. This Project Work Plan is intended to be working document that will be updated and modified as the project is conducted.

EAS Project Background

The Milwaukee County Automated Mapping and Land Information System (MCAMLIS) Project has been steadily building and converting key public and governmental information into geographically referenced (or location based) computerized information. These data are being used at the County, Municipal, Public Safety, and other organizations throughout the Milwaukee area that utilize Geographic Information System (GIS) technology to help them realize many operational and data quality benefits.

One of the next major stages of the MCAMLIS effort is to concentrate on standardizing and managing the address resources, services, and operations for all affected agencies in Milwaukee County. Addresses, perhaps more than any other location referencing information, can be a powerful integrating mechanism to serve many cross jurisdictional and departmental needs. However, to fully realize the many potential benefits, addresses must be created and maintained in standardized ways for the greatest possible quality, currency, and ultimate usage within our many systems and operations. Presently, addresses are assigned, maintained, and used by organizations throughout Milwaukee County without the benefit of a common framework.

The solution leading to the development of a common address framework is to establish an "Enterprise Addressing System" (EAS) that will bridge any gaps and provide a comprehensive approach to the management of this key information. This coordinated framework will include key processes, data, technology, and organizational components that will serve entire organizations as well as single agencies.

The key goals and characteristics of the desired Enterprise Addressing System are:

Enterprise Support – taking into account all stakeholder interests.

Automated – for access and maintenance of addressing information.

Current – information to support user business processes.

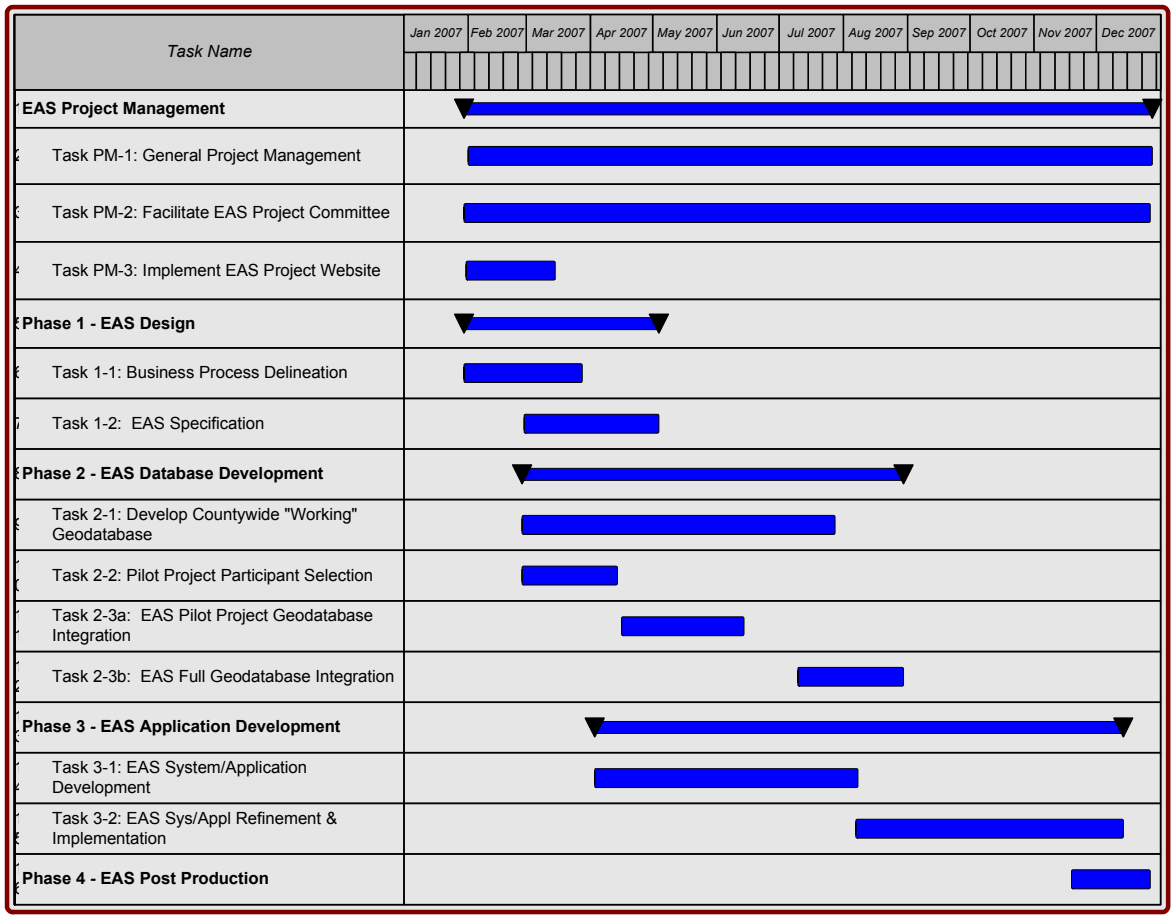
Complete and Standardized – enhanced quality and inconsistencies resolved.

Location Based – to represent all physical address locations in Milwaukee County.

Accessible – to users at all levels and in compatible formats.

EAS Project Schedule

The following Project Work Plan schedule is structured to accomplish all of these goals in a pragmatic and organized fashion. Task duration ranges are indicated in calendar days or months. The schedule allows for an approximate two week (or as determined) reviewing period with agreed upon changes performed based on results of this process.



Project Management Tasks

Task PM-1: General EAS Project Management

Description:

This task will provide Project Management and keep the Project Plan in an updated form throughout the course of work. This will include the following major components that will be developed and maintained.

- Project/Application Goals as enumerated in the introduction section and modified through the development of the Business Process Delineation and Specifications.
- Work tasks, deliverables, schedules, and ongoing budgets beginning with those elements set out in these documents.
- Communications Plan/Matrix for project coordination detailing what agencies should be contacted for a given type of event, such as a committee or technical meeting, review of system design documentation, system testing dates, phased rollout implementation, etc.
- Best Practices integrated into the project and plan as discovered and examined from similar programs.
- Status Reports for all major project tasks produced on a monthly basis for the MCAMLIS Steering Committee, EAS Project Committee, and other project participants.

Deliverables:

Up to date EAS Project Plan, Communications Plan, and Status Reports

Task Duration:

Throughout project duration for development of Communications Plan and integration of Best Practices.

Task PM-2: Facilitate EAS Project Committee

Description:

This task will perform the establishment and management of the EAS Project Committee, a project specific advisory committee providing review, comment, oversight, and communication during the project duration. This committee is expected to be recruited from “stand alone”, “online maintenance”, county department, regional, non-profit, and private agency participants in the project.

The EAS Project Committee will be kept relatively small in size, with not more than 10-12 seats, perhaps using rotating membership. Part of this task will be to recruit, assign, and manage the membership in this committee.

It is estimated the committee will meet once every other month for approximately 2-4 hours per meeting. The production of all meeting materials and onsite facilitation of meetings are elements of this task.

In addition, assistance to develop master agreements of two to three major types for EAS participants will be established. These agreements will detail the "two-way street" that is intended for participant relationships; enumerating products and services each party will receive and be responsible for in relation to the EAS. It will be the responsibility of the MCAMLIS Steering Committee to formally institute any agreements with EAS participating agencies.

Deliverables:

Establishment of EAS Project Committee

Preparation, facilitation, and minutes for up to six EAS Project Committee Meetings

Production of Draft EAS Master Agreements of up to three types

Task Duration:

Throughout project duration.

Task PM-3: Implement EAS Project Website

Description:

This task will implement an EAS Project Website for all participants. This website will allow for enhanced communication and efficient transfer of valuable information and data for all parties participating in the project. The website will be of a secure, password protected nature and will initially be hosted by a consulting firm with the possibility that this will change to MCAMLIS infrastructure as more capability comes on line.

The design of the website will be developed in conjunction using any existing look and feel components (such as style sheets) so the site will be integrated with other MCAMLIS web presence pieces. The EAS Project Website will consist of the following sections at a minimum.

- Project Status/Reports through tracking map(s) and materials
- Project Library with all documentation, designs, and other materials available for viewing and/or download
- Project Data Cache for data transfer using FTP capability
- Project Production Center to track and exchange errata and other production notes and materials

Deliverables:

A stable and fully featured EAS Project Website

Task Duration:

Approximately 30-45 days.

Phase 1 – EAS Design

Task 1-1: Business Process Delineation

Description:

This task will investigate and delineate the key business process needs for a successful Enterprise Addressing System. The addressing resource must work in a variety of ways for different agencies, both on the maintenance as well as the publishing sides. Detailing these needs in a way that lends itself to Functional, Database, and Architectural Specifications is the primary goal for this task. As such, there are some primary steps foreseen to reach this goal, described as follows.

Select and meet with key participants to identify the primary required business processes, using the results of the original EAS Project meetings as a guide. The general types of these organizations can be characterized as follows.

- "Stand alone" organizations that will perform their own maintenance and exchange data with EAS. These include the City of Milwaukee, the City of West Allis, City of Franklin and possibly others. These entities may also be users of EAS Services and Applications that are made available to all participants.
- "Online maintenance" organizations who will utilize EAS for primary maintenance of the addressing data, as a mechanism to search and extract data for in-house use, and as users of EAS Applications that are made available to all participants.
- Public Safety/E911 organizations that will assist in maintenance of the Master Street Address Guide and extract data for use in their particular dispatch systems. These include the Milwaukee County Sheriff, all Milwaukee County Public Safety Access Points (PSAP), etc, and with probable need for coordination with AT&T.

Results of these meetings will focus on developing Use Case Scenarios and Process Flow diagrams for the main business processes required for EAS. These materials will be directly applicable to the development of Functional, Database, and Architectural Specifications. Some of the processes identified are expected to fall in the following general categories, though more may be discovered and documented through performance of this task.

- Direct interaction with EAS for address data maintenance
- Submission of updated data for "stand-alone" participants
- Validation and integration operations for submitted data

- Processes for collection, submittal, and incorporation of field verified addressing data
- Database metrics report creation for gauging on-going performance and reliability
- Validation and maintenance operations with PSAP's (Master Street Address Guide (MSAG) and TelCo databases)
- Query and extraction of addressing data for participants
- Notification processes with flexible filtering capability
- Internet application-based viewing, geocoding, and access to address data by the user community

Deliverables:

EAS Business Process Documentation suitable for Functional, Database, and Architectural Specification development

Task Duration:

Approximately 45-60 days.

Task 1-2: EAS Specification

Description:

This task will develop the specifications to be used to build and implement the Enterprise Addressing System. Though these specifications are developed and delivered in different categories, they represent a holistic system and will be treated and integrated as such. The specifications must also directly conform to the requirements of the identified Business Processes, especially in the functional area. The following describes the requirements for the EAS Specifications known at this time; results of the business process delineation may dictate more or less components as necessary. This task will engage the EAS Project Committee to develop and confirm the final specifications.

Functional Specification

This specification will identify behaviors and functional requirements for the different modes in which EAS will work from a user/functional perspective. These modes and functions are intended to be set up as services utilizing the ESRI ArcGIS Server/MS SQL Server platform, or as tools and processes run from ArcMap (ArcInfo, ArcEditor, ArcExplorer, or ArcView as required). The individual services and functions will be detailed with descriptions, behaviors, necessary data components, computing environment, hardware/ software, and connectivity requirements. The services will then be packaged and reused when necessary to form applications for different purposes and users. For instance, basic viewing services can be used iteratively in maintenance, general access, and

data query/extraction interfaces and applications. Some of the services/functions envisioned at a minimum include the following.

- Basic viewing
- Online maintenance of addressed centerline and structure/point data
- Submittal of addressed centerline and structure/point data from "stand alone" participants
- Validation of input from "stand alone" and online participants
- Audit and measurement functions to provide a means of assessing EAS performance characteristics e.g., reliability, usability and availability. For instance, reporting tools that support the ability to randomly select sample areas and apply uniform metrics against the data and applications as well as support for external field review. These functions will likely establish a scorecard type reporting system that can be used for determining the health of the EAS including currency, progress against previous versions, availability, and accuracy as measured against selected internal and external databases
- Automated address creation/change notification based on flexible filtering mechanisms
- Geocoding of single address and file based input
- Reverse geocoding to establish a candidate address location based on the street centerline ranging (actual and/or theoretical)
- Address database spatial and/or tabular query, extraction, and joining into spatial and tabular formats
- Customized exports for specific E911, accessing, or other system import and utilization
- Routing based on interactive or file input

Upon determination of the services, up to eight end-user interfaces and applications will be specified including services, functions, behaviors, and interfaces illustrated. Interface mockups will be provided along with the descriptive materials to assist communication with end users and finalizing functional design. The results of the Functional Specification must directly satisfy the requirements of the chosen Business Processes for EAS. Some of the end-user applications envisioned at a minimum includes the following.

- Online maintenance application to allow a user to make and submit changes to the address centerline and location databases. Reverse geocoding capability will be provided to facilitate this process. This could include real-time validation of address values. The application will include address creation/change notification tools for validated addresses.

- "Stand alone" addressing data submittal/retrieval application to allow users to submit changes to the address centerline and location databases for their area of responsibility. This could include real-time validation and report of address value errata against the EAS database. Includes address creation/change notification tools for validated addresses.
- Address data validation application to allow EAS database administrators to approve, reject, and integrate submitted changes to the address database either through the online maintenance application or through set areas submitted by participating agencies carrying out their own maintenance. This will also include the Address Sampling and Metrics Reporting tools.
- Address data/MSAG validation application to allow EAS and PSAP database administrators to examine and reconcile the address database with the Master Street Address Guide database. Also includes the address creation/change notification tools.
- Address data query and extraction application allowing for spatial, tabular, or combination filtering and joining methods. This will include customized E911, assessing, and other specific system export tools.
- General viewing, geocoding (single or list), routing, and GIS data access application.

Database Specification

This specification will support the service and application needs of the Functional Specification and is intended to be built using ESRI's ArcGIS Server (ArcSDE) platform with MS SQL Server RDBMS. The EAS Project Committee and participants will be employed for review and input regarding development and agreement on addressing standards and content. The following are the basic subtasks and requirements for the EAS Database Specification.

- Analyze and potentially refine the existing Geodatabase design to meet the functional requirements for applications, simplify where possible
- Develop and specify a "working" Geodatabase Design with primary and common features and attributes for initial integration of countywide source datasets. This may entail multiple fields to store similar attributes from different database sources to be used in the reconciliation processes.
- Examine and establish standards for address data including definition, classification, format, aliasing, "honorary" street names, actual and/or theoretical address ranges, built vs. non-built flags, history tracking, internally assigned addresses (such as apartment numbers), etc.
- Highlight and specify any necessary relationships between database tables/elements such as the EAS Address Database and the MSAG/TelCo

databases, and many-to-one addresses per property parcel (with flagging of a "primary" address value if required).

- Concentrate on efficient data query and import/export requirements, and simplified extraction of key addressing elements based on an input process or criteria.
- Design the address database installation to allow for database iterations for Development, Staging/Testing, and Production environments.

Architectural Specification

This specification will support the computing environment and connectivity needs of the Functional and Database Specifications and is intended to be built using ESRI's ArcGIS Server platform with MS SQL Server RDBMS as the central technology piece. It is important and intended to have the system architecture support environments for *Development, Staging/Testing,* and *Production*.

Network and system design diagrams and descriptive materials will be produced as needed to allow for the efficient implementation of the computing environments. Special attention will be paid to Intra-Internet issues relating to internal/external network firewalls and communications channels. Research on existing resources and specifications for modifications or acquisition of new equipment and/or components will be included in this specification.

Deliverables:

EAS Functional, Database, and Architectural Specifications

Task Duration:

Approximately 2-3 months.

Phase 2 – EAS Database Development

Task 2-1: Develop Countywide "Working" Geodatabase

Description:

This task will develop a "working" database of the centerline and address location data for the entire county. From this the chosen Pilot Area(s) will be extracted to be used and integrated with the EAS final geodatabase, services, and applications for testing and final revisions. The following primary subtasks are necessary to build the EAS Countywide "Working" Geodatabase.

- Collect the most recent countywide data sources for the working database, these will include the following,
    - 2007 City of Milwaukee DIME database and accompanying spatial data
    - Countywide MSAG from AT&T
    - 2007 MCAMLIS Cadastral road centerline
    - 2005 MCAMLIS Topographic road centerline
    - 2004 Dynamap road centerline and addressed structure data and databases
    - 2000 MCAMLIS road centerline and addressed structure data and databases
    - Milwaukee County Sheriffs Department Address database
- Produce Address Metrics Reports using the sampling and metrics reporting tools (developed in Task 3-1) to set benchmarks of compatibility and accuracy between the primary source datasets. Examples would be reports comparing the MCAMLIS addressed centerline versus the MSAG database; or reports comparing the City of Milwaukee DIME database versus the County Sheriff's Department Address database.
- Integrate the countywide source data into the EAS Working Geodatabase Design, performing high-level internal Quality

  Control processes to resolve consistency and format issues to allow the data to be utilized in a common environment.
- Produce iterative runs of the Address Metrics Reports that will highlight conditions and improvements gained through the integration process.
- Perform more intensive Reconciliation and Quality Control processes with the integrated source data in the EAS Working Geodatabase.
    - Formally address, establish, and perform necessary modifications and ancillary attribute development (such as aliasing) to reconcile the

primary source datasets into a consolidated version of the centerline and location features.

  - Define and document any special database relationships and/or lookup type mechanisms to allow as much as possible for backwards compatibility to the legacy databases and systems. These will be refined upon finalization of the EAS Geodatabase Design.
  - Document any errata reports and suggested modifications to the source datasets to bring them better in line with the consolidated EAS Working and Final Geodatabases.

- Produce iterative runs of the Address Metrics Reports that will highlight important improvements gained through the reconciliation process.
- Determine and select any high visibility problem areas in the EAS Working Geodatabase and perform limited field verification to improve the database and establish these field-based techniques and capability. Incorporate results of the field verification process into the database and other specification materials.
- Produce a final run of the Address Metrics Reports for this task that will highlight important improvements gained through the introduction of field verification processes.
- Develop and test the extraction of data products to be used with the legacy source data systems such as the County Sheriff' Department, City of Milwaukee DIME database, National Emergency Number Association (NENA) standard spatial data for Public Safety Answering Point (PSAP) E911 software systems, and others. Results of these data extraction tests will be used in the EAS Application Development efforts.
- Refine all of the EAS Specifications as necessary with the results of this phase of work.

It is assumed that almost all of these tasks will be carried out in an automated office-based production manner, with field work limited to the extent that the establishment of efficient and accurate techniques and tools are developed and enumerated for future EAS refinement. Special attention will be directed to those areas designated for the Pilot Project so these data will be ready for incorporation with the final geodatabase design and applications for testing and refinement.

The following lists the estimated counts of centerline segment and address locations for the City of Milwaukee and outside the City areas. It is felt the level of accuracy, currency, and relationship to other databases (such as MSAG) are different enough between the City of Milwaukee and Milwaukee County that there could be a significant difference in the level of effort to fully integrate these areas.

Estimated Data Feature Totals for Milwaukee County:

Centerline Segments – 16,500

Address Locations – 170,000

Estimated Data Feature Totals for the City of Milwaukee

Centerline Segments – 18,400

Address Locations – 290,000

Deliverables:

EAS Countywide "Working" Geodatabase fully developed

Task Duration:

Approximately 5-6 months.

Task 2-2: Pilot Project Participant Selection

Description:

This short task will identify, select, and institute agreements and communications with chosen participants for the EAS Database and Application Development Phases. It is envisioned that organizations of three major types will be utilized for the pilot project, and constitute contiguous areas if possible so that data joining and edge matching issues are also addressed. The three organizational/ functional types are described as follows.

- "Online maintenance" organizations – such as one of the North Shore communities (City of Brown Deer, Glendale), the City of Wauwatosa, or others.
- "Stand alone" organizations – a portion of the City of Milwaukee adjoining other organizations chosen, the City of West Allis, or others.
- Public Safety/E911 organizations – County Sheriff and/or North Shores Dispatch, other PSAP's, AT&T.

Candidate organizations will be contacted and any necessary agreements refined and instituted. The EAS Project Committee and MCAMLIS Steering Committee will assist in these efforts as needed.

Deliverables:

Pilot Project participants selected and agreements enacted.

Task Duration:

Approximately 30-45 days.

Task 2-3: EAS Final Geodatabase Integration

Description:

This task will transform and integrate the EAS "Working" Geodatabase into the final form of the database used with the applications, for project completion, publication and use, and continued refinement and maintenance. This will be accomplished in two stages, described as follows.

Task 2-3a: Pilot Project Geodatabase Integration

This subtask will migrate the geodatabase for the chosen Pilot Project Area from the "working" to "final" versions of the EAS Geodatabase. This will be done with a view towards preserving the integrity of the data and the "mapping" of one database to the other, even through refinement and iterations of the EAS Final Geodatabase will likely be necessary due to the performance of the application development and testing processes.

The transformed database will be used extensively as the basis for development and testing of the services, tools, and applications defined in Phase 3. Hence, it is possible that many changes to the EAS Final Geodatabase Design will be necessary as a result of these development and testing efforts, and those design changes are covered under this task. Detailed documentation on the geodatabase and transformation processes and tools will be maintained to facilitate the eventual migration of the full "Working" geodatabase to the "Final" version.

It will be desirable during this stage to incorporate local database and GIS information into the Pilot Area Geodatabase to complete the service and application toolset, facilitate the two-way use and extraction processes to legacy systems, and to further maximize the utility and accuracy of the data for all users. However, given the somewhat unknown nature of the local data pending Pilot Project participant selection, the effort required to complete the local database incorporation will be difficult to establish to any degree of accuracy. In consideration of this unknown, a complete integration to selected local databases and systems are expected to be included as post-production efforts to this project, see Phase 4: EAS Post Production.

Task 2-3b: Full Geodatabase Integration

This subtask will perform the full migration of the EAS Geodatabase for the balance of the Milwaukee County area from the "Working" to "Final" versions of the EAS Geodatabase. Based on the results of the Pilot Area integration and documentation of migration processes, this stage will essentially be processing steps to move the geodatabase information into its final form.

Extensive Quality Control and version comparisons will be performed to ensure all database information has made the transition in a complete and accurate manner.

This subtask is expected to be performed as one mass migration for the balance of the project area data though it could also be performed in an iterative fashion for distinct delivery areas. Although the overall schedule may need to be adjusted if this occurs.

Deliverables:

Pilot Project Area fully integrated into the EAS Final Geodatabase

EAS Final Geodatabase Design fully developed, tested, and documented

Geodatabase migration procedures, processes, and/or tools fully documented

Full Project Area integrated into the EAS Final Geodatabase

Task Duration:

Approximately 45-60 days for Task 2-3a

Approximately 30-45 days for Task 2-3b

Phase 3 – EAS Application Development

Task 3-1: EAS System/Application Development

Description:

This task will perform the major task of developing and implementing the core EAS System and Applications. The comprehensive system will utilize the EAS Final Geodatabase with the Pilot Project data and test the entire system for further refinement and full production. An added benefit to this approach is that maintenance and use of EAS for the Pilot Project organizations and others will be enabled upon the completion of this task and phase of the project, showing valuable success at a key milestone in the project history. The distinct steps to be accomplished for this task are detailed as follows.

- Acquire, install, and test the hardware, base software, and network/communications components per the Architecture Specification. This will include setting up the Development, Staging/Testing, and Production environments.
- Install and implement the EAS Geodatabase design and repository per the Database Specification.
- Develop and implement EAS software service, application, and interface components per the Functional Specification.
- Integrate the Pilot Project data into the system, services, and applications as it is developed and migrated.
- Develop and perform EAS Test Plans with MCAMLIS staff and Pilot Project Participants.
- Develop training materials for each of the published applications and perform applicable training with the Pilot Participants.
- Refine the Functional, Database, and Architectural Specifications with the results of system development, testing, and training.
- Refine the Master Project Plan, Budgets, and Schedule
  - Institute agreements with all EAS Participants
  - Validate time estimates as necessary based on actual development figures.

Deliverables:

EAS Services and Applications fully developed and working with the Pilot Project Geodatabase

Updated EAS Specifications

EAS Test Plans and Materials

EAS Training Materials

Updated Project Plan, Budgets, and Schedules

Task Duration:

Approximately 3-4 months.

Task 3-2: EAS System/Application Refinement & Implementation

Description:

This task will continue to refine the core EAS System and Applications as the EAS Final Geodatabase is refined, fully populated, and integrated into the system. The distinct steps to be accomplished for this task are detailed as follows.

- Perform any changes and refinements to the computing environment, services, and applications per the Functional, Database, and Architecture Specifications as modified during the initial development and Pilot Project.
- Continue to perform EAS Testing with MCAMLIS staff and participants as data for the full project area is integrated and comes online.
- Continue to refine EAS and the Functional, Database, and Architecture Specifications with the results of extended system/database development and testing.
- Roll-out finalized EAS applications to all participants with training sessions targeted to specific participant operations.
- Fully implement maintenance and quality control processes internally and with all participants.

Deliverables:

Fully refined and functional EAS Services and Applications

Updated EAS Specifications and Testing Materials

Maintenance and QC processes Initiated

Task Duration:

Approximately 3-4 months.

Phase 4 – EAS Post Production

Task 4-1: EAS Project Closeout

Description:

This task will complete the EAS Project through post production activities intended to document the project materials for future revision and use, and solicit valuable feedback. The following efforts will take place to accomplish these goals.

- Finalize, document, organize, and store all project materials including the Project Plan, Schedules, Budgets, signed agreements and other management materials, Functional Specification, Database Specification, Architecture Specification, Test Plans, Training materials and any other relevant EAS documents and materials. It should be noted that many if not most of these materials are "living documents" and will continue to be updated and revised in an ongoing fashion. This task will be in large part to organize and document them for efficient retrieval, reference, and use.
- Conduct post-project interviews and analysis with internal and external project participants. The primary goal for this effort will be to provide constructive input to help maintain EAS, the participant relationships and satisfaction, and better structure and conduct future projects of a similar nature.
- Set up and enable whatever ongoing support and communications processes are seen as necessary for the ongoing success of EAS by MCAMLIS and participant organizations.

Deliverables:

All EAS Project materials in organized and final form

Post-Project Analysis and Recommendations

Task Duration:

EAS Project Closeout – 30-45 days

Task 4-2: EAS Ongoing Database/System Improvements

Description:

The Enterprise Addressing System is intended to be a living and evolving resource for all concerned parties and as such it will need to be continuously improved. This improvement is expected to occur both from a database as well

as functional perspective. In that respect, the following are some of the efforts that will be considered as part of the ongoing lifecycle of the system.

- Continue to investigate, analyze, and integrate local databases and systems that contain and utilize address based data. This may be through direct means or through import/export mechanisms.
- Institute a program with suitable organizations and operations to mount more extensive field verification and validation of the address data, striving to approach the 98-100% accuracy level as soon as is feasible.
- Continue to monitor and report on the quality of the address data through periodic application of the Address Metric Sampling and Reporting tools.
- Maintain a robust EAS/GIS User Group that will provide valuable feedback on data, system, and application issues and improvements that can be directed toward ongoing maintenance and future improvement efforts.

Deliverables:

Ongoing EAS support and improvements

Task Duration:

Ongoing

Wisconsin Location Matters

A Statewide Geographic Information Strategy

01/16/2007

Table of Contents

This effort was funded in part by a 2005 National Spatial Data Infrastructure (NSDI) Federal Geographic Data Committee Cooperative Agreement Program (CAP) grant to "Develop a Strategic Plan for GIS in Wisconsin." The Wisconsin Land Information Association (WLIA) initiated the NSDI grant proposal and coordinated project activities throughout plan development. For more information contact the WLIA at 800-344-0421 or abarrett@uniontel.net.

Executive Summary

Emergency response. Wireless 911. Pandemic planning. Voter registration. Sex offender tracking. Each of these presents serious challenges for our society, and the public expects and deserves these and numerous related issues to be addressed efficiently and effectively. The coordinated use of geographic information and technologies, including geographic information systems (GIS), is the most effective way to meet these challenges. Although many organizations already use some form of GIS to help support program planning, management, monitoring, and evaluation, many others lack these resources.

Wisconsin needs overarching cross-jurisdictional and cross-functional sharing of geographic information and services. This document presents a plan for improving the coordination and delivery of geographic information services throughout Wisconsin. The plan consists of five goals and associated strategies that, when considered together, will contribute significantly to the realization of this statewide geographic information vision.

Strategic Goals of the Strategy

1. Improve Coordination
Implement mechanisms to improve program coordination and technical collaboration among GIS stakeholders. The most critical component for improved coordination is the establishment of the Wisconsin Geographic Information Council (WIGIC) in 2007.

2. Establish a Robust Data Framework
Build an effective and efficient structure to create, maintain, integrate, access, and use geographic data in support of Wisconsin's geographic information needs.

3. Provide Geographic Information Services
Improve services for the acquisition, discovery, sharing, and use of geographic information and technology. These services will help reduce redundant activities and will facilitate the delivery of critical information to the public.

4. Obtain Funding
Establish funding mechanisms sufficient to operate ongoing programs and support new initiatives that address critical business needs. Lack of adequate and sustainable funding is one of the most significant barriers to the coordinated development, use, and maintenance of geographic information resources and services statewide.

5. Promote Education and Awareness
Increase awareness, knowledge, and expertise in the value and uses of geographic information, technology, and services.

Strategies/Actions

Specific actions are required to begin the successful realization of Wisconsin's vision:

- WIGIC must be formally created and recognized as the guiding body for statewide geographic information activities in Wisconsin.

- The contents of this plan must be communicated to stakeholders and decision-makers throughout Wisconsin. Without their willingness to participate and collaborate, and without their political, technical, and financial support, this plan will fail.

- Under the guidance of the WIGIC, specific implementation plans must be developed for each goal. These implementation plans must include detailed objectives and proposed solutions for achieving each goal. Involvement from the legislative, administrative, and GIS communities will be necessary in the development of these plans.

Wisconsin's vision that stakeholders have "real-time" access to high-quality geographic information, technology, and services for sound and coordinated decision making is possible. In fact, it exists in many other states and organizations. Success depends upon the willing collaboration of many entities and individuals. There is no question that the coordinated use of GIS will expand economic development, improve public safety and public health, make us better prepared for emergencies, and help protect our cultural and natural resources.

Introduction

Location, Location, Location!

Increasingly, our society relies on — and benefits from — information about the location of people, places, things, and events. Principles and practices fundamental to the way our society functions (ownership of land, for example) are based on **geographic information*. Everyday life is difficult to imagine without maps and location information to enable vital activities such as land and property administration, transportation and logistics, agriculture, natural resource and wildlife management, environmental management, emergency services, homeland security, and health and human services. In addition, residents increasingly use location information in their daily lives via in-car navigation, **GPS* (*global positioning system)*, and other similar services.

Geographic Information and Technology: It's the Future. The use of geographic information is supported by a powerful technology, **GIS*, which has been continuously evolving since its inception in the mid 1960s. GIS is one of the most pervasive of today's technologies and is recognized by the U.S. Department of Labor as a high-growth technology, with daily use by governments, the private sector, academia, and private residents. High-capacity computers and networks, improved software, data collection using GPS and digital sensors — it's the expansion of technologies such as these that's driven the evolution of GIS. And let's not forget about the growth of the Internet and its ability to integrate information from multiple sources. The transition of geographic information from paper to digital maps has also been fundamental. Digital information is more widely available via personal computers and the Internet, which amounts to an array of uses that were once impossible with paper-based information only. This trend will certainly continue.

More Efficient and Effective Government Saves Tax Dollars. Many government entities use geographic information to make better and faster decisions, and to save money by delivering public services more efficiently and effectively. One simple example is digital property maps. Integration and exchange of parcel data from local to state to federal agencies increases productivity at all levels, while reducing costs and duplication. For instance, a state revenue agency can link — in real-time — property records of multiple local governments to ensure fair distribution of the tax burden. Title companies, realtors, residents, and others benefit by using digital parcel maps to help identify and describe parcels, reduce the cost of title insurance, and reduce real estate transaction costs. Additionally, local governments use GIS to select solid waste disposal sites, analyze crime statistics, and determine response strategies to fires.

The President's Office of Management and Budget (OMB) has recognized the value and importance of GIS in the federal government. The OMB has identified the geospatial sector as one of three new E-Gov Lines of Business (LOB) (along with budget formulation and execution, and IT infrastructure optimization). The **geospatial LOB* is intended to result in (1) a more coordinated approach to producing, maintaining, and using geospatial data; and (2) sustainable participation from federal partners in collaborative activities.

**Please note that terms and topics preceded by an asterisk (*) can be found in the Glossary.*

Better Planning and Decision Making Encourages Economic Development. Integration of geographic information into daily business functions helps individuals, government agencies, and businesses make better decisions and save time and money. Major retail chains (e.g., McDonalds, Starbucks, and Walgreens) plan new store locations and design marketing strategies based on geographic information. Trucking companies use geographic information to optimize the logistics of freight movement. Energy companies use geographic information to find, collect, and convert raw energy into forms we can use. Utilities use geographic information to build and maintain the distribution networks that deliver the ultimate forms of energy we are so dependent on in modern society (e.g., gasoline, oil, natural gas, and electricity). Departments of Transportation and local governments use GIS to manage information about the condition of roadways and to determine the distribution of maintenance dollars.

Coordinated Emergency Response Improves Public Safety. When state agencies and adjoining counties and municipalities can access each other's geographic information in real-time, they can share a common view of an emergency that spans their boundaries. This allows local fire and police response teams, state emergency management staff, and FEMA personnel to make quicker and more informed decisions for a "borderless response." When concerned parties have access to the same information, the entity closest to the incident is able to respond more effectively. Making geographic information more accessible has many benefits. Importantly, greater accessibility necessitates additional coordination and integration.

Cost Savings: Time Is Money. Broad use of standardized information reduces the potential for unnecessary costs by preventing duplication of resources and efforts. We cannot afford the inefficiency and cost of incompatible, conflicting, and/or duplicated geographic information resources. Furthermore, these costs are not purely monetary: Inaccurate address information can lead to delayed response to emergencies, which can have a number of obvious negative consequences. And inadequate data-sharing mechanisms can lead to ineffective resource management practices by environmental management, agriculture, and planning agencies.

Wisconsin's Story: Public-Private Partnership

Wisconsin has had a long and unique approach to GIS in comparison to most states. Key components in Wisconsin include a statewide, county-based funding and coordination program known as the **Wisconsin Land Information Program (WLIP)*, a **State Cartographer's Office (SCO)*, and, more recently, the creation of a state **Geographic Information Officer (GIO)* position within the Wisconsin Department of Administration (DOA). Wisconsin has also had extensive GIS capacity for many years in several state agencies and within a number of campuses in the University of Wisconsin (UW) System, most notably UW-Madison.

Authorized by statute in 1989, the WLIP (through the Wisconsin Land Information Board until mid-1995 and now through the DOA) establishes policy, sets standards, and administers grant funding available to all counties to modernize land information and expand GIS capacity and use. Although the WLIP has been effective in providing the organizational framework and funding means for GIS growth in counties, this assistance does not meet all of the financial and technical requirements of local governments. Additionally, the grant programs have had limited impact on state agencies.

Wisconsin is one of just a few states with an SCO. Authorized by statute in 1973, the SCO in Wisconsin is a unit of UW-Madison. The SCO's functions include serving as an information and data clearinghouse, and providing advice and education related to mapping, data, outreach assistance, and educational opportunities.

In 2005 the State of Wisconsin hired its first GIO, located in the Division of Enterprise Technology in the DOA. The GIO has broad responsibilities: to facilitate the coordination of GIS activities among stakeholder groups, encourage the adoption of appropriate standards and data-sharing policies, and identify strategic directions for statewide GIS. Currently, the GIO is focused on establishing a Wisconsin Enterprise Geographic Information System (WEGIS), which would facilitate the improvement of GIS services and their coordination between state agencies.

In addition to governmental organizations, several private organizations have done much to foster GIS growth and development in Wisconsin. Created in 1987, the Wisconsin Land Information Association (WLIA) is a private, nonprofit organization representing nearly 600 professionals dedicated to the preparation and maintenance of GIS and local land information systems. WLIA task forces and committees study and make recommendations regarding GIS issues, and this work is sometimes formalized into guidelines or standards that are adopted by other stakeholders.

The Wisconsin Land Information Officers Network (LION) is composed of all designated **county land information officers*. The purpose of the network is to address issues common to counties, communicate with the Wisconsin DOA, and cooperatively seek solutions to county land information problems.

The state's long history of GIS research, collaboration, and advocacy has resulted in many past achievements and successes. Wisconsin must also recognize, however, that new **business drivers* are continually emerging. Stakeholders increasingly use GIS for a wide variety of business needs such as the following: economic development, environmental management, agriculture, education, public health and safety, law enforcement, human services, infrastructure management, planning, zoning, real property records management, redistricting, homeland security, and emergency management.

Strategic Goals: The Path to the Future

Recognizing, understanding, and prioritizing current business drivers and emerging issues is critical for successful GIS strategic planning. Wisconsin's plan is responsive to the needs of the state's residents, businesses, and decision-makers, who expect excellent client service and easily accessible and understandable information. They also expect more work to be accomplished with fewer resources.

The following five strategic goals, if implemented, will move the understanding, use, effectiveness, and value of GIS to a higher level within Wisconsin. To be accomplished, these goals will certainly require additional discussion, understanding, support, and in some instances, increased funding.

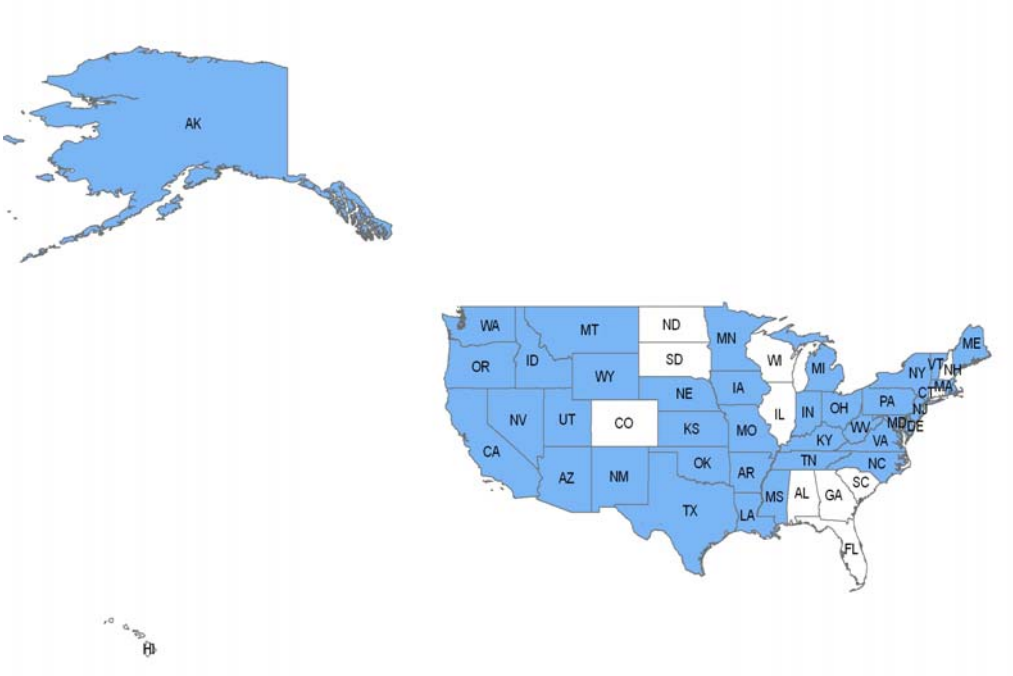
Goal 1: Improve Coordination

The most significant factor for achieving Wisconsin's GIS strategic goals will be through effective coordination. Successful coordination implies broad-based communication and a deep understanding of the responsibilities and needs of organizations that provide and use GIS services across the state.

GIS coordination must have executive level support and be led by a coalition of entities that facilitate coordination and collaboration among stakeholder groups. With all levels of government facing reduced funding, coordination between government agencies and between government and private entities is critical to the effective operation of counties, municipalities, and the state. Past coordination efforts have addressed specific program needs. As GIS evolves, more effective and broader coordination is an absolute necessity.

Coordination Trends

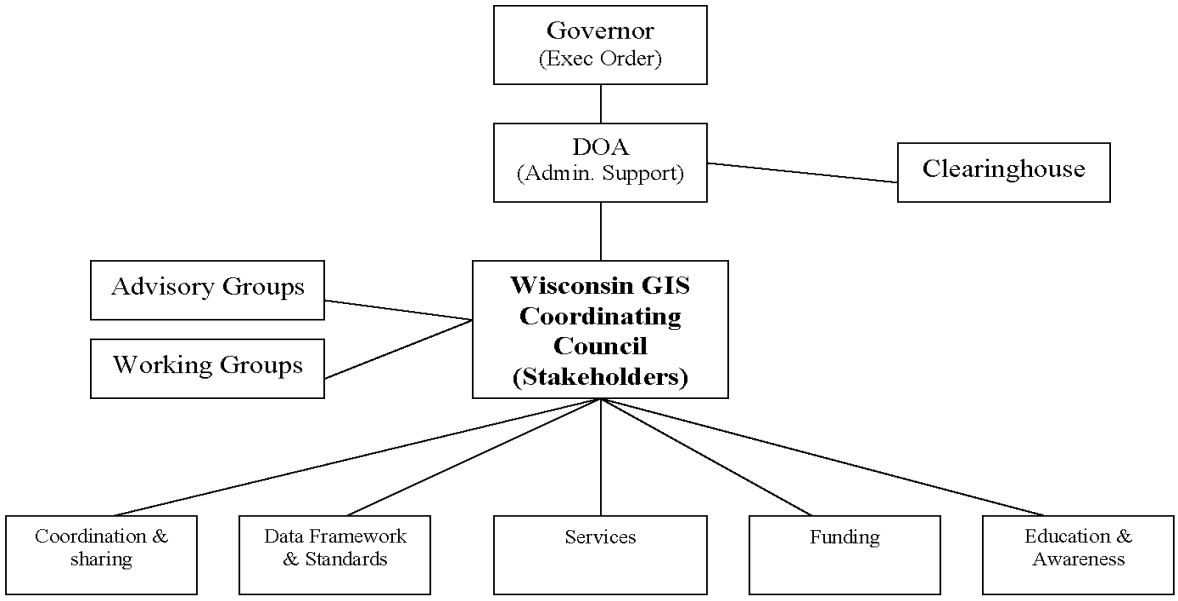
- Thirty-eight *states have established GIS coordination councils (see map below) to ensure that public and private GIS investments, use, and sharing are identified, prioritized, and coordinated among all interested organizations (for list of states see Glossary). The **National States Geographic Information Council (NSGIC)* and the **Federal Geographic Data Committee (FGDC)* both recognize and promote the value of statewide coordination and the role of state councils.
- Geographic information is recognized as a critical and rapidly growing application technology in government agencies, private companies, academia, and utilities.
- The adoption of geographic information technology makes analysis of social and business problems possible and solutions affordable.
- Federal funding eligibility for GIS data development is becoming increasingly dependent on the demonstration of an effective statewide coordination mechanism involving a range of public and private sectors.



Coordination Goal
Implement mechanisms to improve program coordination and technical collaboration among GIS stakeholders.

Coordination Strategies

- In 2007 establish via Executive Order the Wisconsin Geographic Information Council (WIGIC), a broadly representative body whose purpose will be to provide geographic technology leadership in Wisconsin.
- WIGIC will represent Wisconsin's GIS **stakeholder groups*.
- WIGIC will be modeled on the desired and successful aspects of coordination councils in other states.
- WIGIC will communicate statewide goals and programs to the stakeholder groups; recommend policies for data standards, exchange, security, funding, and services; serve as an advisory body to the State's **Chief Information Officer (CIO)* and GIO; and facilitate coordination with federal agencies.



The illustration above presents a possible model for the proposed Wisconsin Geographic Information Coordinating Council (WIGIC). Council members will represent a broad range of stakeholder groups and will have responsibility to evaluate and recommend steps to implement the strategic goals identified in this plan.

Coordination Benefits

- Improved coordination will build a useful statewide information infrastructure, e.g., a statewide transportation network and associated addresses for voter registration, **wireless E-911* response, and regional emergency response coordination.
- WIGIC will provide a mechanism to stay current with expectations, needs, innovation, and technological growth.
- WIGIC will build on the existing structure of the WLIP.
- WIGIC improves the state's eligibility for acquiring federal funding (e.g., **Imagery for the Nation Initiative*).

Coordinated DOP Acquisition
*Digital orthophotos (DOPs) provide the data foundation for most public and private GIS. Historically, DOPs have been acquired with little cooperation among agencies, resulting in inconsistent and duplicated DOP coverage and cost across Wisconsin.

In 2005, over 85 municipalities and 44 counties acquired DOPs through consortiums. This reduced costs through high volume pricing and a common contracting approach. County LIOs and regional planning commissions coordinated many consortium activities.

In 2006, a similar consortium effort involving counties and municipalities in northwest Wisconsin failed due to insufficient funding. **Statewide coordination of activities is vital to the success of similar future initiatives.**

Goal 2: Establish a Robust Data Framework

Wisconsin needs a comprehensive and widely adopted framework of policies, standards, agreements, and best practices to streamline the sharing of geographic data among stakeholder groups. Wisconsin has identified and developed several required foundational data sets. However, to support existing business needs and emerging business needs (such as emergency management), some of this data must be enhanced and new data created.

A consistent framework for data collection, management, integration, and sharing will save time and money. Without this framework, geographic data sharing and integration is often unnecessarily complicated and inefficient. Simply discovering if data exists and how it may be accessed can be exhausting. And when geographic data does exist, it may be in a format or system that cannot be easily accessed, integrated, or used. In addition, the Internet often gives the inaccurate impression that all critical geographic data is already available and accessible. Confusion about data restrictions also hinders sharing, especially during emergencies, when quick access to accurate data is critical.

Data Framework Trends

- Implementation of wireless and traditional **E-911* allows public safety and law enforcement officials to map caller locations and coordinate emergency response activities across jurisdictions.
- Development of international, federal, and industry standards for geographic data, data exchange, and location-based services promotes efficient data integration and sharing among stakeholder groups.
- Development of data warehouses with "views" that integrate data from different sources allows data to be collected once and then used for a variety of purposes across programs.

Framework Goal
Establish an effective and efficient framework to develop, maintain, access, integrate, and use geographic data across all areas and jurisdictions in Wisconsin.

Data Framework Strategy

- **Build and improve critical geographic data**
  - ⇨ Identify geographic data needed to support critical business functions.
  - ⇨ Use geographic data from existing sources, as appropriate.
  - ⇨ Prioritize critical geographic data gaps and recommend ways to acquire missing data.
  - ⇨ Publish and maintain an inventory of existing geographic data.

- **Adopt geographic data framework policies, standards, and best practices**
  - ⇨ Adopt established policies, standards, and best practices, as appropriate.
  - ⇨ Develop and adopt new data policies, standards, and best practices, as needed.
  - ⇨ Promote awareness and understanding of policies, standards, and best practices.

- **Facilitate access to geographic data**
  - ⇨ Formally recognize the authority and responsibility of distributed producers to create and manage geographic data.
  - ⇨ Support the creation and maintenance of statewide and regional views of geographic data that integrate data from distributed sources.
  - ⇨ Recommend mechanisms to simplify and automate the data search, view, and exchange of geographic data.

- **Promote collaboration to create, maintain, and share geographic data**
  - ⇨ Adopt policies that encourage data sharing while addressing privacy, licensing, copyright, data-as-revenue, and legal concerns.
  - ⇨ Identify, evaluate, and recommend specific data-sharing agreements for emergency and non-emergency situations.
  - ⇨ Identify potential supporting partnerships (such as links to federal initiatives) and identify incentives for data sharing.
  - ⇨ Coordinate the acquisition and management of statewide geographic data that support critical business needs.

Data Framework Benefits

- Supports efficient access to geographic information in emergency situations.
- Eliminates redundant funding for development of and access to the same critical geographic data.
- Provides a statewide framework consistent with federal geographic data standards and completes federal National Spatial Data Infrastructure (NSDI) foundational geographic data for Wisconsin.
- Builds on existing data development investments (e.g., WLIP and state agency initiatives).

Siren Tornado: Lessons Learned
In 2001 an F3 tornado destroyed property and lives along its 41-mile swath across northwest Wisconsin. GIS played a vital role in various planning, preparedness, response, and recovery activities associated with this tornado. The Burnett County Land Information Office and Emergency Management Office, in coordination with the Wisconsin Department of Natural Resources and other agencies, shared geographic information and used GIS tools to create a common view of the affected areas in the tornado's path (see image below). The benefits of GIS were measured in terms of improved efficiency, effectiveness, and equity when addressing the needs of affected municipalities, businesses, and residents.
See: http://www.ruralgis.org/publications/viewCatalogueItem.asp?id=30&rgisSite=1

Goal 3: Provide Geographic Information Services

GIS services are critical for a wide variety of functions for stakeholder groups. However, many organizations lack sufficient knowledge of and/or access to GIS resources. This inconsistency, especially among governmental agencies at different levels, hinders the discovery, sharing, and use of geographic data across organizational boundaries. This in turn hampers efforts to coordinate the presentation of information and the delivery of programs to the public.

Geographic Information Services Trends

- Recent natural disasters (e.g., Siren and Stoughton tornadoes) demonstrate that coordination and integration of geographic data are critical for emergency response activities.
- Demand for GIS by government agencies at all levels is increasing. "Service" models provide customers with access to GIS resources that don't have to be created and managed internally.
- Many government agencies at all levels are consolidating IT and GIS resources, and moving toward **service oriented architecture* models.

Geographic Information Services Goal
Identify, provide, and maintain a comprehensive suite of GIS services for Wisconsin.

Geographic Information Services Strategy

- **GIS Product Services**
  - ⇨ Provide web interface for customers to order existing or customized GIS products, such as maps, reports, geographic data, publications, and other products.
  - ⇨ Provide simple "Make a Map" wizard for customers to create their own maps.

- **GIS Infrastructure Services**
  - ⇨ As appropriate, coordinate the creation and maintenance of information technology infrastructure to support the GIS services described in this document.

- **GIS Web and Application Services**
  - ⇨ As appropriate, establish web and GIS application development and hosting services to support the GIS services described in this document.
  - ⇨ Use a service oriented architecture approach to build upon existing GIS efforts of government agencies, tribes, and private sector organizations.

- **GIS Data and *Metadata Services**
  - ⇨ Support GIS data and metadata development, maintenance, hosting, and integration services.
  - ⇨ **Data warehouse* contains statewide and regional "views" of geographic data created from officially recognized distributed sources.
  - ⇨ Develop automated processes to extract, transfer, convert, load, and integrate data into statewide and regional views.

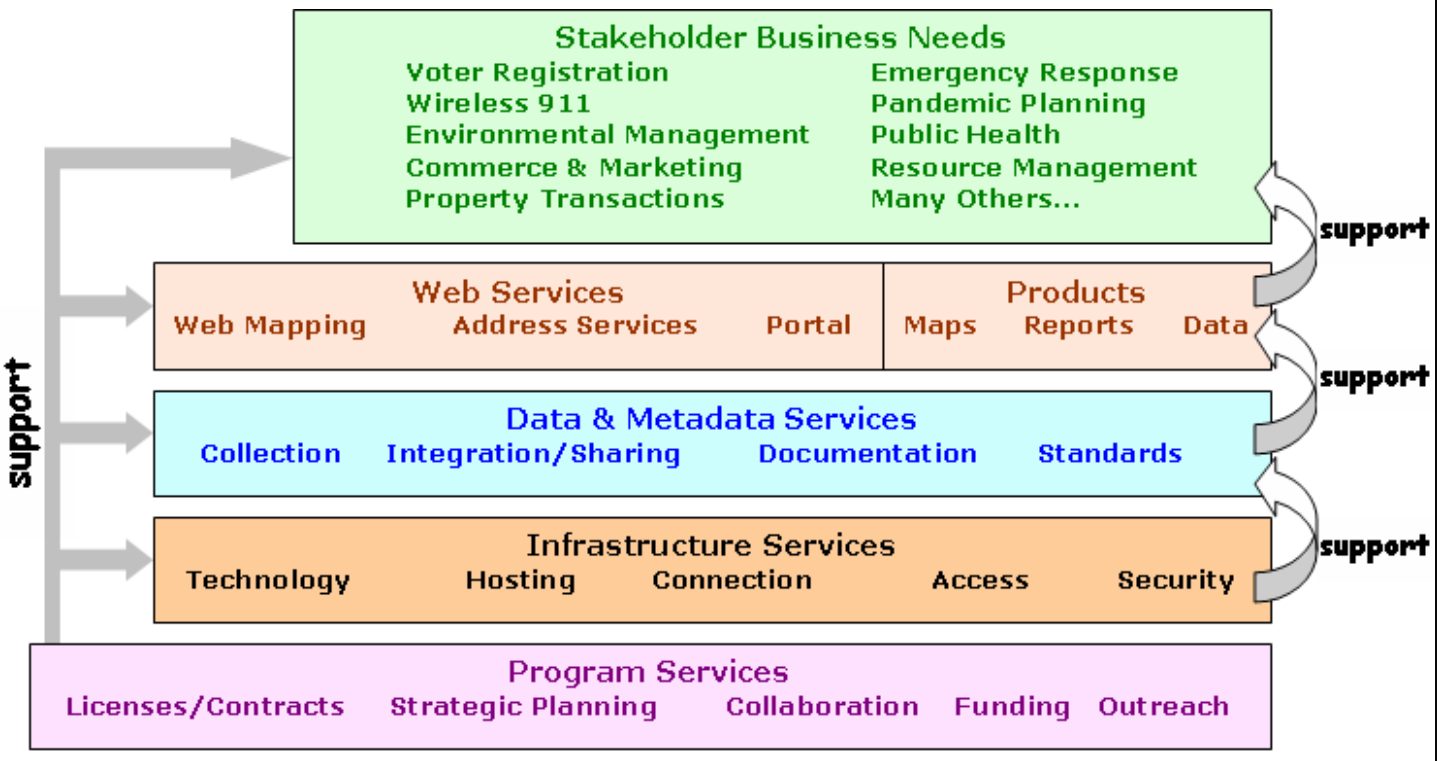
- **Location-based Services**
  - ⇨ Facilitate integration of GIS data and applications with location-based technologies, such as wireless and traditional E-911, GPS, and address validation.

- **GIS Business/Program Services**
  - ⇨ Establish a "Wisconsin GIS Portal" to inform and support customers in the acquisition, use, and management of geographic data and GIS services.
  - ⇨ Coordinate GIS vendor product licensing, contracts, consulting services, etc.
  - ⇨ Standardize processes and templates for GIS related RFPs, MOUs, contracts, etc.
  - ⇨ Support GIS strategic planning, funding coordination, and project collaboration.
  - ⇨ Establish stakeholder groups to resolve issues associated with GIS services.

Geographic Information Services Benefits

- Provide consumers that lack internal GIS capabilities with understanding of and access to geographic data and GIS resources and services.
- More flexible, cost-effective funding options based on different service "levels" and delivery mechanisms.
- Coordinate and standardize agency GIS activities in government.

Geographic information services support each other and a variety of stakeholder business needs, as demonstrated in this chart.



Goal 4: Obtain Funding

Establishing adequate and sustainable funding will remove a significant barrier to the coordinated development, use, and maintenance of GIS resources and services across Wisconsin. Traditionally, GIS stakeholders have individually funded the development of their respective GIS data and systems. While the WLIP has enabled GIS capabilities in many counties, it was not designed to build and support the full spectrum of GIS capabilities required. GIS is used by agencies because it is the most efficient and effective way to deliver essential services to the public. However, GIS activities are often not funded by the operations that use them and are viewed as support services that must be funded from external sources.

Funding Trends

- Easy, cost-free access to geographic data has been a positive influence on economic development in many areas. The expansion of GIS services and technologies has not only benefited functions traditionally associated with geographic information but also has brought benefits to other institutions and the public.
- There is a continued significant disparity in GIS capabilities among state, county, and local agencies. The disparity negatively affects the ability to deliver services in some geographic locations.
- Municipal governments have a growing need to develop GIS services complementary to those of county governments. Some municipal and county governments have needed to charge for GIS services to obtain funding for their GIS services. This can lead to license restrictions, which impede the free flow of data in emergency situations.
- Current economic and political climate encourages the mix of taxes and surcharges to fund new or expanded services.

Funding Goal
Establish adequate and reliable funding mechanisms dedicated to the coordinated development and maintenance of GIS resources and activities in Wisconsin.

Funding Strategies

- Establish the level of funding required and define a funding model appropriate for use in Wisconsin.
  - ⇨ Estimate resources spent and additional requirements.
  - ⇨ Investigate alternative models.
  - ⇨ Get entire community involved.
- Maximize the use of external funding sources by aggressively pursuing grant and other funding opportunities to support Wisconsin GIS services.
- Continue the collection of the WLIP real estate transaction-recording fee. Restore the use of WLIP funds to support activities as specified in statute.
- Ensure that all expenditures of public funds supporting GIS are related to demonstrable outcomes and linked to multiple levels of government within the state.

Funding Benefits

- Stable, adequate funding will:
  - ⇨ Enable more consistent, equitable delivery of vital services across the state.
  - ⇨ Allow better planning and integration with federal funding initiatives.
  - ⇨ Provide access to resources for agencies and organizations that currently lack GIS capabilities, and reduce costs associated with redundancy among state agencies.
  - ⇨ Enable agencies to make data more freely available, increasing its use and value.
- The WLIP funds land information modernization activities.
- Sound funding policies will promote standardization, strengthen accountability, and improve delivery of GIS services.

Wisconsin Soil Surveys: An Example of Successful Cooperative Funding

Soil surveys are produced for private lands across the nation as part of the National Cooperative Soil Survey program administered by the Natural Resources Conservation Service (NRCS). Soil surveys describe and map the extent of soils, the physical and chemical properties of soils, and the conditions for soil use. These surveys provide sufficient detail to meet the needs of farmers, community planners, engineers, zoning administrators, land developers, and others.

Seven years ago, only 20 of Wisconsin's 72 counties had digital soil surveys meeting NRCS standards. Digital soil surveys provide important geographic information for analyzing and defining proper uses of land. In 1999, NRCS estimated that completion of digital soil mapping would take until the year 2014 at then-current funding levels. In 1999 the NRCS, the Wisconsin Land Information Board (WLIB), and several state agencies came together in a cooperative funding partnership with the goal of expediting the completion of soil surveys statewide. Under this agreement, the NRCS committed two-thirds of the required $12 million, while the WLIB (using WLIP funds) and the state agencies covered the remaining one-third. The soil survey for the final county was completed and made available to the public on the Internet in the summer of 2006. Governor Doyle proclaimed 2006 the "Year of Soil," in part to celebrate this cooperative effort. ftp://ftp-fc.sc.egov.usda.gov/WI/Soil/yosproclamation.pdf

The completion of Wisconsin's digital soil survey demonstrates how properly conceived and managed cooperative funding ventures greatly assist in the development/acquisition of critical geographic information. Similar efforts are needed to obtain other vital statewide geographic information (e.g., transportation networks, elevation data, digital aerial imagery) needed to support critical business functions.

Goal 5: Promote Education and Awareness

The use of GIS and its supporting technology is rapidly growing and at the same time continually changing. As a result, many decision-makers are unaware of the potential uses, benefits, and improved decision making that can be realized by incorporating GIS into established organizational responsibilities. Across the state, there is an immediate need to provide leaders and decision-makers with an increased awareness of the concepts, capabilities, and benefits of GIS.

In 2004 the U.S. Department of Labor identified GIS as one of the three most important evolving technology fields in the nation, along with nanotechnology and biotechnology. In both the public and private sectors in Wisconsin, there is a growing need for employees with solid education, training, and skills in GIS. Based on data from the **Geospatial Industry Workforce Information System*, Wisconsin currently has nearly 30,000 workers in fields related to geographic information technologies, with an estimated 16% growth rate over the next 10 years. Wisconsin needs to develop an enlightened and comprehensive policy on GIS education, one that benefits K-12 students, professionals, employers, and residents.

Education and Awareness Trends

- GIS is becoming increasingly important for the delivery of services, and the general public is beginning to use GIS on a daily basis.
- More public and private organizations are recognizing the value of GIS and are investing in GIS education. GIS training is available through a variety of organizations, including educational institutions, public and private employers, and software vendors.
- GIS education is essentially not being implemented at the K-12 level; however, GIS education appears to be expanding to more universities within the state.

Education and Awareness Goal
Increase awareness, knowledge, and expertise in the value and uses of geographic information, technology, and services.

Education and Awareness Strategies

- Utilize the WIGIC to raise the level of awareness of decision-makers at all levels of government about GIS requirements and benefits.
- Identify groups and organizations that would benefit from GIS education and training and develop resources to provide a learning experience for schools, businesses, and government.
- Inform and educate existing GIS users in the state.
- Encourage better coordination of GIS educational offerings at all UW campuses and involve the Wisconsin Technical College System.
- Add GIS awareness and fundamentals to the state's K-12 curriculum.

Education and Awareness Benefits

- Increased awareness will improve delivery of services through wider use of GIS technology.
- An educated and skilled GIS workforce can improve the economy by attracting GIS businesses to the state and will make government and business more efficient.
- Residents will be able to make better decisions about public policy and will be able to plan for and respond to emergency situations through the use of GIS services.

Google Earth

Access to GIS data has become universally available with Internet tools such as Google Earth. These tools are used daily by individuals and businesses for navigation and general viewing purposes. The popular media is shining a spotlight on geographic information technology with stories about maps on phones, GPS in cars, and near real-time aerial pictures of news events such as Hurricane Katrina, the tsunami in Indonesia, and the Iraq conflict. Unfortunately, the general public is not always aware of the limitations of the underlying data presented on a variety of Internet mapping sites. Providing education regarding what they see and how to interpret the information will improve the overall ability of government and businesses to use these mechanisms in providing services. For more information, visit http://earth.google.com.

Conclusion and Next Steps

The residents of Wisconsin deserve the best possible delivery of geographic information services at the lowest costs. The use of GIS assists in those efforts. However, in order to maximize these benefits, the state must approach the use of GIS in a thoughtful, organized fashion. *A Statewide Geographic Information Strategy* describes an approach that emphasizes collaboration to achieve five goals that, when achieved, will make people safer, enhance economic development, protect the environment, and improve government.

Steps to be Taken

First, the WIGIC must be established. Initial efforts to define the function and structure of this organization have begun under the auspices of the GIO. The intent is to formally define the Council via Executive Order in 2007.

Second, the contents of this plan must be communicated to members of stakeholder groups and decision-makers throughout Wisconsin to promote the understanding of the goals and garner support for them.

Third, specific implementation plans must be developed to address the individual goals stated in the strategy. These detailed plans will describe specific tactics that are suitable for Wisconsin to achieve each goal. This activity will be best conducted under the guidance of the WIGIC.

Strategic Planning Process

WLIA initiated this planning process by inviting 33 state organizations to participate. On April 12, 2006, a group of nearly 100 enthusiastic stakeholders convened in Stevens Point, Wisconsin, for a daylong, professionally facilitated session. Participants included federal, state, county, municipal, tribal, university, emergency management, planning, engineering, mapping, GIS, and realtor representatives, in addition to students and others. Interestingly, 40% of the participants were not WLIA members but professionals from other groups who recognized the need to better leverage geographic information and technology for their business needs. The participants compiled ideas and data about GIS changes and trends, current strengths and challenges, and critical success factors.

A core planning team, representing a cross-section of the original group, was then selected to continue the process. Working with the information gathered at the initial meeting (along with the same professional facilitator from that meeting), the core planning team developed the goals and related strategies set forth in this document. A subset of the team was identified to compose the final strategy document and make it available for review. The contents of this plan reflect a consensus of core team members. Participants volunteered their time and resources to help make this effort successful.

Core Team Members

Fred Halfen	Wisconsin Land Information Association and Ayres Associates Inc
David Mockert	Department of Administration
Ted Koch	State Cartographers Office
Dick Vraga	U. S. Geological Survey
Lisa Morrison	Department of Agriculture, Trade and Consumer Protection
Tyson Halla	Wisconsin Realtors Association
Bill Huxhold	University of Wisconsin-Milwaukee
Jay Yearwood	City of Appleton
Diann Danielsen	Land Information Officers Network and Dane County
Jason Grueneberg	Wood County
Mike Koutnik	Environmental Systems Research Institute, Inc.
John Ellingson	Wisconsin County Surveyors Association and Jackson County
Kent Pena	U.S. Department of Agriculture, Natural Resources Conservation Service
Kevin Pomeroy	1,000 Friends of Wisconsin
Terrance McMahon	Wisconsin Towns Association
Brian Braithwaite	Real Properties Listers and Washington County
Cindy Wisinski	Register of Deeds Association and Portage County
Alan Blencoe	National Emergency Number Association and LaCrosse County
Tony Bellovary	Bay-Lake Regional Planning Commission
Thomas Tym	Ruekert & Mielke, Inc.

Additional information about the strategic planning process and core team activities can be found at http://www.wlia.org/wilandinfo/strategic+planning/default.asp.

Glossary

Business Drivers. External or internal influences that significantly impact and/or set directions for programs. Examples of business drivers may include providing direct information access, following open standards, protecting privacy while offering transparency, providing timely access to decision support information, accomplishing more with fewer resources, and using alternative funding sources. Business drivers exist for all organizations, whether public, private, or nonprofit.

Chief Information Officer (CIO). The chief information officer, or CIO, is a job title for the head of the information technology group within an organization. Wisconsin's CIO is the administrative head of the Division of Enterprise Technology within the Wisconsin DOA.

County Land Information Officer (LIO). The LIO is the coordinator of GIS projects within the county and between the county and other agencies, and the coordinator of the countywide land records modernization plan. This person also recommends grants and is the county point of contact for information on county policies, procedures, and information holdings.

Data Warehouse. A data warehouse is a copy of transaction data specifically structured for querying and reporting.

Digital Orthophotograph (DOP). An orthophotograph is an aerial photograph that has been geometrically corrected (i.e., orthorectified) so that its scale is uniform. Each ortho has been adjusted for topographic relief, lens distortion, and camera tilt, and can be thought of as a photographic map that can be used to measure true distances. A DOP is an orthophotograph in digital format.

E-911 (Enhanced 911). A service feature of the 911 emergency-calling system that automatically associates a physical address with the caller's telephone number. Computer software associates the caller's line and a street address to provide emergency responders with the location of the emergency.

Federal Geographic Data Committee (FGDC). An interagency federal committee that promotes the coordinated development, use, sharing, and dissemination of geospatial data on a national basis. Numerous stakeholder organizations participate in FGDC activities representing the interests of state and local government, industry, and professional organizations. www.fgdc.gov

Geographic Information. Data in a spatial and temporal context that describes the location or distribution of phenomena, processes, and features, as well as the interaction of humans and their environment.

Geographic Information Officer (GIO). The geographic information officer, or GIO, is a job title for the head of the geographic information technology group within an organization. Wisconsin's GIO is located in the Division of Enterprise Technology within the Wisconsin DOA. This person reports directly to the State's CIO.

GIS (Geographic Information System). GIS links geography and data. A specific GIS is a collection of special-purpose digital databases in which a common spatial coordinate system is the primary means of reference. GIS contain subsystems for (1) data input; (2) data storage, retrieval, and representation; (3) data management, transformation, and analysis; and (4) data reporting and product generation (such as maps).

It is useful to view GIS as a *process* rather than a thing. A GIS supports data collection, analysis, and decision making and is far more than a software or hardware product. Other terms for GIS and special purpose GIS include the following: land-base information system, land record system, land information system, land management system, multipurpose cadastre, and AM/FM system. (Source: The Geographer's Craft, Department of Geography, University of Colorado at Boulder.)

Geospatial Industry Workforce Information System (GIWIS). A joint project to identify occupations primarily involved in working with geographic information. The American Association of Geographers and the Geospatial Information and Technology Association direct the project.

Geospatial Line of Business (LOB). The LOB initiative seeks to leverage commonalities and target architecture approaches (i.e., systems, best practices, migration strategies, key interfaces) to support development of shared business processes and system solutions. The geospatial LOB will further refine the opportunities for optimizing and consolidating federal geospatial-related investments to reduce the cost of government and, at the same time, improve services to residents. Cross-agency coordination of geospatial activities can identify, consolidate, and reduce or eliminate redundant geospatial investments.

GPS (Global Positioning System). GPS is a U.S. space-based radio navigation system that provides reliable positioning, navigation, and timing services to civilian users on a continuous worldwide basis — freely available to all. A constellation of more than two dozen satellites that broadcast precise timing signals by radio allows GPS receivers to accurately determine the location (longitude, latitude, and altitude) of a feature anywhere on the earth. Disaster relief and emergency services depend upon GPS for location and timing capabilities in their life-saving missions. The accurate timing provided by GPS facilitates everyday activities such as banking, mobile phone operations, surveying, mapping, and even the control of power grids.

Imagery for the Nation Initiative. A nationwide program to collect and disseminate standardized, multi-resolution aerial imagery products on set schedules. The National States Geographic Information Council (NSGIC), in cooperation with the National Digital Orthophoto Program Committee (NDOP) and the Federal Geographic Data Committee (FGDC), sponsors this initiative. Local, state, regional, tribal, and federal partners will be able to exercise "buy-up" options for enhancements that are required by their organizations. The imagery acquired through this program will remain in the public domain and be archived to secure its availability for posterity.

Metadata. Often understood as "data about data," it is a file of information that captures the basic characteristics of a data or information resource. It represents the who, what, when, where, why, and how of the resource.

National States Geographic Information Council (NSGIC). The National States Geographic Information Council (NSGIC) is an organization committed to efficient and effective government through the prudent adoption of geospatial information technologies (GIT). Members of NSGIC include senior state geographic information system (GIS) managers and coordinators, and representatives from federal agencies, local government, the private sector, academia, and professional organizations. NSGIC provides a unified voice on geographic information and technology issues, advocates state interests, and supports members in their statewide initiatives.

NSGIC advocates the following nine coordination criteria as essential to fully enable statewide geographic information coordination activities:

1. A full-time paid coordinator position is designated and has the authority to implement the state's business and strategic plans.
2. A clearly defined authority exists for statewide coordination of geospatial information technologies and data production.
3. The statewide coordination office has a formal relationship with the state's chief information officer (or similar office).
4. A champion (politician or executive decision maker) is aware and involved in the process of coordination.
5. Responsibilities for developing the NSDI and a state clearinghouse are assigned.
6. The ability exists to work and coordinate with local governments, academia, and the private sector.
7. Sustainable funding sources exist to meet projected needs.
8. Coordinators have the authority to enter into contracts and become capable of receiving and expending funds.
9. The federal government works through the statewide coordinating authority.

Service Oriented Architecture (SOA). SOA is an approach for organizing and utilizing distributed capabilities that may be under the control of different owners. It provides a uniform means to offer, discover, and use capabilities for a broad audience. Benefits include increased capabilities and cost savings due to the elimination of redundant development activities.

Stakeholder Groups. This term is meant to encompass the broadest range of GIS producers and consumers. The term includes, but is not limited to, the following groups: governing bodies at the municipal, county, state, tribal, and federal levels; regional planning commissions; state and federal agencies; professional organizations; nonprofits; utilities; private businesses; academia; and the public.

State Cartographer's Office (SCO). The SCO is a unit within the Department of Geography at the University of Wisconsin-Madison. With an outreach mission specified in statute, the SCO gathers, maintains, and disseminates information about mapping and geospatial data in the state.

States with GIS Coordinating Councils. Alaska, Arizona, Arkansas, California, Delaware, Idaho, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, and Wyoming.

Wireless E-911 (Enhanced 911). A technology implementation that provides emergency response operations a relatively accurate location (using latitude/longitude) of the caller.

Current geographic information that shows the location of the caller is a critical component of a functional E-911 system. Examples of this form of information include transportation networks, addresses, water features, names, and trails.

Wisconsin Land Information Program (WLIP). Established by statute in 1989, the WLIP is a unique Wisconsin program focused on local governments with the goal of modernizing Wisconsin's 150-year old land information system and making those records and associated geographic information more accessible to all. The WLIP is structured on a combination of data and administrative standards, dedicated funding, and prescribed duties for the state's administration organization and local governments. The WLIP, through the Land Information Board (which was dissolved on June 30, 2005), established policy, set standards, and provided funding to local governments for land information and GIS related activities. On July 1, 2005, all duties previously assigned to the WLIB were transferred to the Wisconsin DOA.

Since the early 1990s, all 72 counties have voluntarily participated in the WLIP. To do so, counties have had to meet certain requirements specified in the WLIP's enabling legislation. The WLIP's funding mechanism is a land transaction-recording fee collected at each County Register of Deeds office. The WLIP was modeled on the concept of a decentralized confederation of systems where the responsibility to collect and maintain information remained at the local level. The confederation of systems was intended to exist as independent databases on a variety of computer hardware and software. The conceptual model for the WLIP evolved from more than 20 years of study by the State, UW-Madison, local governments, and federal agencies.

Criteria for Evaluating Geospatial Governance Models (DRAFT 3/02/07)		
Legitimacy and Voice	**Participation**	• Broad and balanced representation (diversity of stakeholders, diversity of expertise) with all members able to contribute to decision-making in a substantial way • Opens direct lines of communication between Council and diversity of stakeholders • Facilitates face-to-face interaction and relationship building • State agency cooperation and participation – voluntary or mandated?
	Consensus Orientation	• Mediation of differing interests to reach a broad consensus
Direction	**Strategic Vision**	• Enabling mechanism/clear mandate – executive order versus legislation? • Clearly defined roles and responsibilities of Council, Geographic Information Office (GIO), and State Cartographer's Office (SCO) • Joint and clearly articulated vision and mission to which all stakeholders see how they can contribute
Performance	**Responsiveness**	• Ability to access expertise and resources from within and outside the Council to address and resolve issues. • Ability to adjust or create committees and working groups • Ability to adjust meeting frequency and location
	Political Efficacy	• Enables the geospatial community to articulate a united vision to policy makers • Increases awareness and understanding of geospatial-related issues and activities among policy makers at all levels and with the public • Involves the highest level of policy makers in geospatial decision making • Promotes the incorporation of geospatial-related issues into statewide policy and decision making • Minimizes the impact of change in administration and of political bias
	Effectiveness and Efficiency	• Readily understandable structure and manageable size • Tangible links and reciprocity between Council, GIO, SCO, and stakeholders • Tangible benefits and deliverables accrued widely and at all levels • Utilizes best practices from the private sector • Capacity building at all levels • Staffing levels specifically focused on coordination and other Council goals • Ability to influence how funds are expended • Ability to provide incentives for participation
Accountability	**Accountability**	• Clearly defined reporting requirements of the Council to the GIO, SCO, CIO, Legislature, and Governor
	Transparency	• Provides transparent and democratic mechanisms for broad participation in policy development, decision-making and recommendations for funding allocations
Fairness	**Equity**	• All stakeholders are encouraged to actively participate in the Council and associated committees • All stakeholders and the public receive sufficient value from the Council
	Rule of Procedure	• Clearly defined, open and fair operating and voting procedures
Sustainability	**Sustainability**	• Ability to persist under change in administration • Ability to persist under budgetary constraints • Sufficient funding, administrative support and technical support

Steps Toward a Wisconsin Geographic Information Council

an update report for the Wisconsin Land Information Association 3/7/07

With the termination of the Wisconsin Land Information Board in 2005, Wisconsin has lacked a governance body to coordinate the development and use of geographic information across the state. The recent *Wisconsin Location Matters – A Statewide Geographic Information Strategy* identifies the creation of a "Wisconsin Geographic Information Council" (WGIC) as the first of five strategic goals.

Simultaneous with the development of this strategic plan, the Wisconsin Department of Administration (DOA) received a separate grant from the Federal Geographic Data Committee (FGDC) to develop and promote a geographic information coordinating mechanism. DOA's Geographic Information Officer (GIO) contracted with the University of Wisconsin-Madison to research other states' geospatial governance models and to *facilitate the process* for the development of a set of recommendations. Towards this goal, a small team* developed the following products:

- A detailed review of geospatial governance bodies in 8 other states. This report will be available on-line as soon as all participating states have approved release of their information. A link to the report will be provided though WLIA website (http://www.wlia.org).

- A set of criteria to be used to evaluate possible models for a Wisconsin Geographic Information Council (WGIC). These criteria are summarized on the following page.

- Two **DRAFT** potential models for a WIGC. These models were based on what the committee judged to be good features of other states' programs, adapted to the Wisconsin context. The models shown in this document **ARE NOT** recommendations, but rather are "straw man" proposals intended to generate comment and discussion. **Additional proposed models and ideas are welcome and encouraged.**

The criteria and the two draft models are intended to help Wisconsin develop a WGIC that will help meet the other goals defined in the strategic plan – improving coordination, supporting effective and efficient data development and maintenance, fostering a service-oriented environment, pushing for continued and well-directed funding, and promoting understanding and use of a wide variety of geospatial technologies.

LISTENING SESSIONS

At least 4 listening sessions will be conducted around the state to generate discussion and to solicit ideas and comments on WGIC:

April 11, Eau Claire April 12, Green Bay April 18, Madison TBA, Southeast WI

Details of time and place have not been finalized; please look to WLIA, SCO, and LICGF websites in the next few weeks for more information. We also will provide a website and email repository for those who wish to provide input but are not able to attend one of these sessions.

NEXT STEPS

Based on feedback from many communities interested in geographic information, we hope a WGIC model will emerge that is inclusive, representative and participatory – a forum that meets multiple needs. We will expand the *ad hoc* committee to include representation of organizations that have expressed ideas and concerns during the Listening Session process and hold a "summit meeting" during Summer '07.

Governance Model A is a congress model, with three forums (Technology, Agency, User) electing twelve representatives to the Council. The legislature and governor appoint three additional members to the Council. The Council is advisory to the legislature, the governor, and the Wisconsin Department of Administration through the CIO and GIO. The forums conduct the majority of work, and they or the Council create *ad hoc* work groups for specific issues. To the extent possible, the forums conduct business virtually (via Web meetings, blogs, etc.).

Voting Members

Four members elected from the Technology Forum
Four members elected from Agency Forum
Four members elected from User Forum
One each Governor, Senate, Assembly appointed member
WDOA Geographic Information Officer *(ex officio, non-voting)*
State Cartographer *(ex officio, non-voting)*

Forum details

Technology Group (geospatial technology and data)

Addresses issues related to geospatial technology, standards, training, technology transfer, and spatial data infrastructure. Membership is open to anyone with professional/technical expertise that wants to participate but must include:

- at least 3 vendors and consultants
- at least 3 professional organization reps (e.g., WLIA, LION, GITA, EWUG)
- at least 3 academic (e.g., UW system, private college, technical college)
- Agency group and User group representatives

Agency Group

Address issues of policy, funding, licensing, coordination, inter-agency collaboration, and state-local relationships. Membership is open to anyone representing a public agency but must include:

- at least 3 state agency representatives
- at least 3 local/regional agency organization reps (e.g., WCA, WTA, League)
- at least 3 local government reps
- at least 3 federal agency reps (e.g., USGS, NGS, NPS, NRCS, FSA)
- at least 3 tribes
- Technology group and User group representatives

User Group

Addresses issues related to services (needs and evaluations), education and awareness, and public/private collaboration. Membership is open to anyone but must include:

- at least 3 quasi-public (e.g., utilities, telecommunications, emergency services)
- at least 3 for profit (e.g., real estate, transportation, marketing)
- at least 3 non-profit (e.g., land trusts, community organizations, lake districts)
- Technology group and Agency group representatives

Governance Model B is a standard hierarchical council. The Council is appointed by the governor, and is advisory to the legislature, the governor, and the Wisconsin Department of Administration through the CIO and GIO. Standing committees and *ad hoc* work groups would address extant issues as needed. Committee Chairs appointed by the Council.

Members (25 voting; 1 non-voting)

- Six members from Towns, Cities, and Counties
- Three members each from State Agencies and the Private Sector
- Two members from Educational Institutions
- One member each from Federal, Tribal, Regional Government Agencies
- One member each from Non-profit Organizations, WLIA, WSLS
- One each Governor, Senate, Assembly appointed member
- WDOA Geographic Information Officer and the State Cartographer *(ex officio)*
- State Budget Officer (non-voting)

Standing Committees

The council would decide the issues to be addressed and task committees. The standing committees can identify issues and proposed solutions to the council for review and concurrence.

Data Framework and Services Committee

Establish an effective and efficient framework to develop, maintain access, integrate, and use geographic data across all areas and jurisdictions in Wisconsin. Identify, provide and maintain a comprehensive suite of geospatial services for Wisconsin.

Funding and Policy Committee

Establish adequate and reliable funding mechanisms dedicated to the coordinated development and maintenance of geospatial resources and activities in Wisconsin. Establish a comprehensive and widely adopted framework of policies, standards, agreements and best practices to streamline the sharing of geospatial data among stakeholder groups.

Education Committee

Increase awareness, knowledge and expertise in the value and uses of geospatial information, technologies, and services. Increase awareness of Council activities.

Government Issues Committee

Provide forum for governmental institutions to discuss and resolve issues of concern at a specific level of government or between levels of government. Federal, State, County and Municipal subcommittees will raise or resolve issues and send them to the council or its committees.

Management and Operations Committee

This committee is comprised of the Chair of the Council, the appointees of the Governor and both houses of the legislature, the ex-officio members, the chairs of the standing committees of the Council, and other members of the WIGIC appointed by the Chair. It provides advice and support to the WIGC on complex organizational and programmatic matters. The committee meets only as formally requested by the council and typically addresses matters addressing difficult policy issues.

MEMORANDUM

TO: MCAMLIS Steering Committee

FROM: SEWRPC Staff

DATE: February 14, 2007

SUBJECT: STATUS OF THE MCAMLIS 2005 - 2006 TOPOGRAPHIC MAPPING PROJECT

Introduction

The Agreement between the MCAMLIS Steering Committee and the Southeastern Wisconsin Regional Planning Commission (SEWRPC) governing this project was executed on December 22, 2004, and work on this project has been underway since January 2005.

Digital Orthophotography

All digital orthophotography files have been delivered to Milwaukee County for distribution and use.

Digital Terrain Model Files and Digital Topographic Mapping

Digital topographic map files and digital terrain model files (DTMs) for this project are organized in digital files or "tiles" that each cover an area of 10,000 feet by 10,000 feet on the Wisconsin State Plane Coordinate System grid. There are a total of 93 tiles covering the entire County. The relationship of this tiling scheme to areas of the U.S. Public Land Survey System (USPLSS) and to the municipalities in Milwaukee County is shown on the map attached as Exhibit A. The completion status of DTMs and digital topographic mapping for USPLSS survey townships in Milwaukee County is described as follows:

T8N-R21E and T8N-R22E

These two survey townships generally cover the area north of the 410,000-foot northing line as shown on Exhibit A. There are a total of 24 tiles in this area. DTM files and digital topographic map files for all 24 tiles have been reviewed by Commission staff, field checks have been completed, and all digital files have been accepted. Final digital files for all 24 tiles have been delivered to Milwaukee County.

T7N-R21E and T7N-R22E

These two survey townships generally cover the area between the 380,000-foot northing line and the 410,000-foot northing line as shown on Exhibit A. There are a total of 19 tiles in this area. This area contains the approximately 2.5-square-mile Marquette Interchange Reconstruction Project area where DTMs and digital topographic mapping are not being collected at this time. Mapping for the Marquette Interchange area is expected to be completed in 2009.

DTM files and digital topographic map files for all 19 tiles in this area have been reviewed by Commission staff, field checks have been completed, and all digital files have been accepted. Final digital files for all 19 tiles have been delivered to Milwaukee County.

T6N-R21E and T6N-R22E

These two survey townships generally cover the area between the 350,000-foot northing line and the 380,000-foot northing line as shown on Exhibit A. There are a total of 20 tiles in this area. DTM files for this area have been tentatively accepted and preliminary files have been delivered to Milwaukee County. The digital topo files have been reviewed by the Commission staff and returned to the contractor for corrections. The field checks for this area will be performed as soon as possible and should be completed in Spring 2007.

T5N-R21E, T5N-R22E, and T5N-R23E

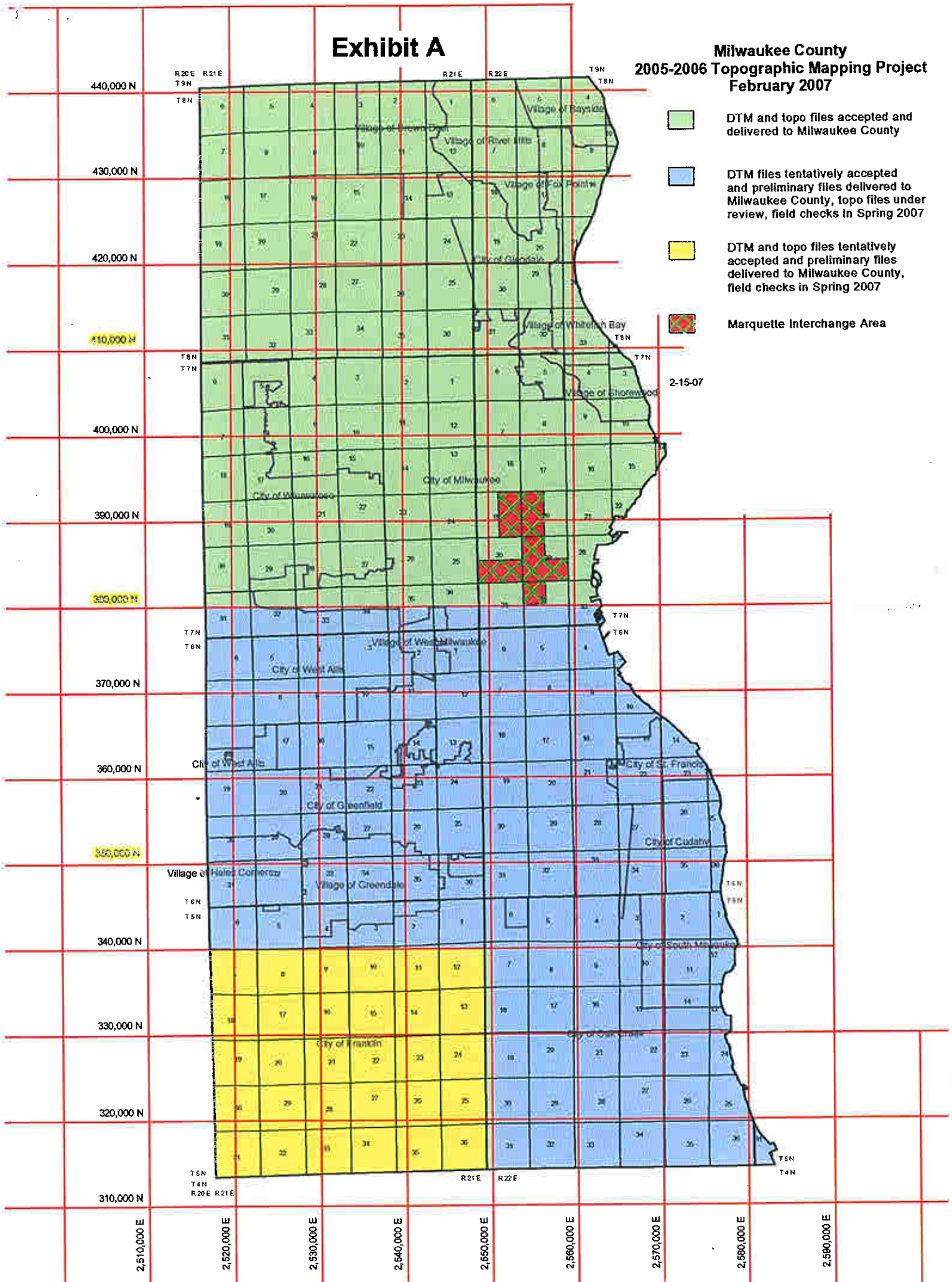
These three survey townships generally cover the area south of the 350,000-foot northing line as shown on Exhibit A. There are a total of 30 tiles in this area. All 30 DTM files for this area have been tentatively accepted and preliminary files have been delivered to Milwaukee County. Digital topo files for 12 tiles in this area have been tentatively accepted and delivered to the County. Review of the final 18 digital topo files in this area is in progress by Commission staff and is nearly completed. The field checks for this area will be performed as soon as possible and should also be completed in Spring 2007.

The Agreement between the MCAMLIS Steering Committee and the SEWRPC calls for all of the work covered by the Agreement to be completed by June 30, 2007. At this time, there is no reason to believe that this schedule will not be met.

* * * * *

jgm
02/14/07
#125416 v1 - Status of MCAMLIS Mapping Project -- 02/07

Exhibit A


Milwaukee County
2005-2006 Topographic Mapping Project
February 2007
DTM and topo files accepted and delivered to Milwaukee County
DTM files tentatively accepted and preliminary files delivered to Milwaukee County, topo files under review, field checks in Spring 2007
DTM and topo files tentatively accepted and preliminary files delivered to Milwaukee County, field checks in Spring 2007
Marquette Interchange Area
2-15-07
Village of Bayside
Village of Brown Deer
Village of River Hills
Village of Fox Point
City of Glendale
Village of Whitefish Bay
Village of Shorewood
City of Milwaukee
City of Wauwatosa
Village of West Milwaukee
City of West Allis
City of Greenfield
City of St. Francis
City of Cudahy
Village of Hales Corners
Village of Greendale
City of South Milwaukee
City of Franklin
City of Oak Creek
440,000 N
430,000 N
420,000 N
410,000 N
400,000 N
390,000 N
380,000 N
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360,000 N
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2,590,000 E

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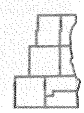


MEMORANDUM

TO: MCAMLIS Steering Committee

FROM: SEWRPC Staff

DATE: February 12, 2007

SUBJECT: STATUS REPORT NO. 6 ON REGIONAL WATER SUPPLY PLAN

This memorandum sets forth the progress made on the regional water supply planning program from October 31, 2006 through January 31, 2007. The preparation of the regional water supply plan represents the third, and final, element of the SEWRPC regional water supply planning program. The first two elements, comprising the development of basic groundwater inventories and the development of a groundwater simulation model for the Southeastern Wisconsin Region, were completed over the past several years. These first two elements involved interagency partnership programs with the U.S. Geological Survey, the Wisconsin Geological and Natural History Survey, the University of Wisconsin-Milwaukee, the Wisconsin Department of Natural Resources, and many of the water supply utilities serving the Region. The third, and final, step in the planning program, the preparation of the water supply plan, was initiated January of 2005. In addition, the 2035 regional land use plan has been completed. That land use plan was separately funded and serves as the basis for the development of the regional water supply plan.

Progress on the water supply plan has been focused on the completion of water supply system inventories, the preparation of the state-of-the-art water supply practices and water law reports, and the development of groundwater modeling procedures.

Progress on the water supply plan is summarized in the attached Exhibit 1 and in the following paragraphs.

STUDY ORGANIZATION

As previously reported, a cooperative staffing arrangement is being used, involving the Southeastern Wisconsin Regional Planning Commission (SEWRPC) staff, consulting engineering and legal firms, and the groundwater technical staffs of the Wisconsin Geological and Natural History Survey (WGNHS), the U.S. Geological Survey (USGS), and the University of Wisconsin-Milwaukee. The contractual arrangements were previously completed through agreements with groundwater technical staffs of the State and Federal agencies concerned, with a consulting engineering firm for carrying out portions of the work, and with a legal firm for a review of water supply laws. During this reporting period, the administrative direction and internal project management of the planning program was continued.

ADVISORY COMMITTEE

The Regional Water Supply Planning Advisory Committee met on December 5, 2006 and January 23, 2007, to complete review the description of the existing water supply conditions in the Region, as documented in the draft of Chapter III of the planning report. The Committee also reviewed and approved the description of state-of-the-art water conservation measures and programs, as documented in Chapter VII of the state-of-the art water supply practices report and Chapters I through VI of the water supply law report.

INVENTORIES

Work was completed by the engineering consultant on the inventories needed to document the state-of-the-art of water supply management. In addition, work was completed on the water supply law inventory. That inventory has been documented in a preliminary draft report.

PLAN REPORT PREPARATION

Chapter III, "Existing Water Supply Conditions of the Region," of SEWRPC Planning Report No. 52, *A Regional Water Supply Plan for Southeastern Wisconsin*, was completed, reviewed by the Regional Water Supply Planning Advisory Committee, and revised to address the Committee review comments. Work was initiated on Chapter IV, "Legal Structure Affecting Water Supply Planning," and Chapter V, "Analyses and Forecasts." As previously reported, Chapter I, "Introduction and Background," Chapter II, "Description of the Study Area," and Chapter V, "Planning Objectives, Principles, and Standards," have also been finalized to date. Chapters I through IX of SEWRPC Technical Report No. 43, *State-of-the-Art of Water Supply Practices*, have now been prepared and reviewed by the plan Advisory Committee and revised to reflect Committee review comments. The final chapter of that report is scheduled for review in March.

A preliminary draft of the report on water supply law, SEWRPC Technical Report No. 44, *Water Supply Law*, was completed, with six of the seven report chapters being reviewed by the plan Advisory Committee. The final chapter of that report is scheduled for review in March.

GROUNDWATER MODELING ACTIVITIES

The regional groundwater model has been updated to incorporate new software providing the linkages between the groundwater system and the surface water system. Work has been initiated on the groundwater sustainability analysis and on the groundwater recharge area analysis.

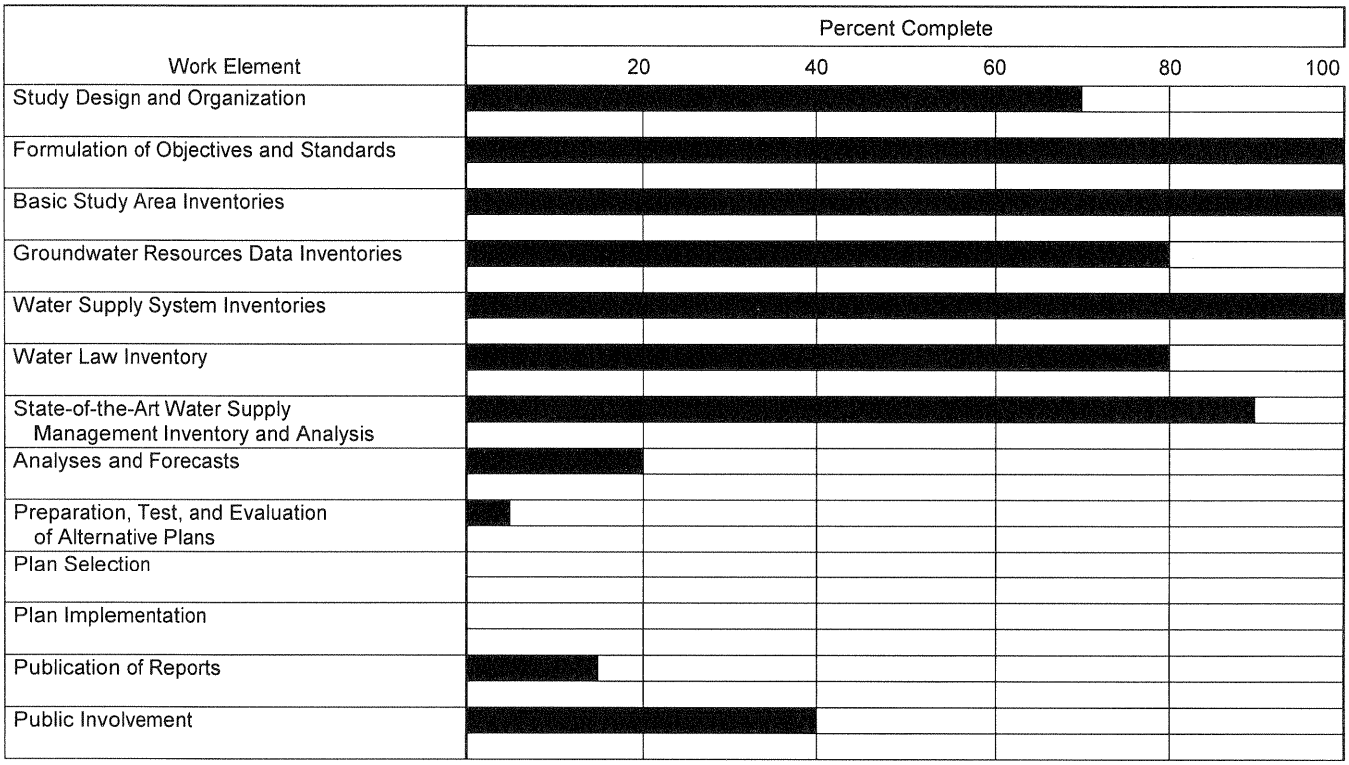
OTHER ACTIVITIES

The Commission water supply planning website has been maintained. Three presentations on the planning program were made to governmental committees and staff. The Advisory Committee meeting minutes and report chapters are being placed on that site. The site also includes related presentations, reports, and other pertinent information.

* * *

Exhibit 1

STATUS OF REGIONAL WATER SUPPLY PLAN: JANUARY 31, 2007



#125351 V1 - MCAMLIS RWSP STATUS REPORT NO. 6
KWB/RPB/pk
02/12/07

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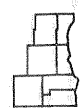


MEMORANDUM

TO: MCAMLIS Steering Committee

FROM: Kurt W. Bauer, PE, RLS, AICP
Milwaukee County Surveyor

DATE: January 11, 2007

SUBJECT: MILWAUKEE COUNTY SURVEYOR ACTIVITIES—2006

This memorandum is intended to provide the MCAMLIS Steering Committee with a report on the work of the Milwaukee County Surveyor for the calendar year January 1, 2006, through December 31, 2006. The office, and the duties and functions, of the County Surveyor are prescribed by Section 59.45 of the *Wisconsin Statutes.* In Milwaukee County the necessary work, pursuant to the direction of the County Board, is funded by document recording fees retained by the County pursuant to Section 59.43(2) of the *Wisconsin Statutes*. Since the MCAMLIS Steering Committee is charged by contract between Milwaukee County and the public and private utilities operating within the County with administering these retained recording fees, a report to the Committee on the activities of the County Surveyor is in order.

Within Milwaukee County, the U.S. Public Land Survey System has been combined with the State Plane Coordinate system and the National Geodetic Vertical Control System to provide the high order horizontal and vertical control survey network required for the preparation and maintenance of the MCAMLIS large-scale topographic and cadastral maps. Therefore, the work of the Milwaukee County Surveyor entails not only the maintenance of the U.S. Public Land Survey System as such, but also the maintenance of the MCAMLIS horizontal and vertical control survey network. Consequently, the work requires expertise in geodetic, as well as plane, surveying and in the legal aspects of property boundary determination.

Attachment 1 to this memorandum consists of a map of Milwaukee County on which are shown the location of all of the corners of the U.S. Public Land Survey System within Milwaukee County for which various types of perpetuation activities were undertaken in calendar year 2006. These activities involved the replacement of section, quarter section, center of section, and witness and meander corners which were reported as damaged, disturbed, destroyed, or proposed to be destroyed, by construction, or other activities or actions. The work involved the setting of new monuments, and, as necessary, the replacement of attendant witness marks and benchmarks. New records of U.S. Public Land Survey control station records -- dossier sheets -- were prepared for each corner concerned.

It should be noted that, in accordance with Milwaukee County policies relative to the participation and use of disadvantaged business enterprises in the provision of County services, a contract was entered into with the firm of Dakota Intertek Corporation of Milwaukee, Wisconsin -- a minority owned firm -- to provide assistance to the County Surveyor pertaining to the maintenance of the U. S. Public Land Survey System. More specifically, the contract provided for assistance in the remonumentation of broken or

substandard concrete monuments marking the location of corners pertaining to the system. The contract specified 12 such monument locations where the contractor was instructed by the County Surveyor as to what type of work was to be performed and the specifications that were to be followed. After completion of such work, the County Surveyor performed an inspection of the monument installation, all of which were found to be in compliance with the specifications governing the work. Payment was made to the contractor in the amount of $18,765.00 on July 28, 2006. This amount constituted 24 percent of the total cost of the County Surveyor services, thus substantially exceeding, the goal established by Milwaukee County for the participation of a disadvantaged business enterprise in this regard.

A copy of each of the new dossier sheets is provided in Attachment 2 to this memorandum. As indicated on Attachment 1, a total of 28 U.S. Public Land Survey corners were involved in the perpetuation activity for the calendar year. In some cases, the perpetuation activity resulted in the determination of revised elevations for both the corners and the attendant benchmarks. In such cases, control survey summary diagrams were updated to reflect these changes. A copy of each of the revised diagrams concerned is herewith provided as Attachment 3.

Pursuant to State Statutes, Registered Land Surveyors must provide to the County Surveyor for filing copies of all plats of surveys other than land subdivision plats and certified survey maps prepared for surveys conducted within the County. Through December 31, 2006, the County Surveyor received, indexed, and filed 2,272 copies of new land surveys completed within the County. In addition, the Commission began a project to incorporate into the filing system historic plats of surveys acquired from a now defunct land surveying firm, totaling literally thousands of plats, bringing the total number of records of land surveys completed within the County, which have been filed with the County Surveyor since the inception of this work in 1984, to 51,010. The filed records are indexed to permit retrieval by name of the surveyor concerned, the property owner concerned, the address of the property concerned, if shown on the plat, the date of the survey plat, the civil division, and the U.S. Public Land Survey Township and Range, and Section and one-quarter section within which the plat is located.

The County Surveyor also assists MCAMLIS in the preparation of contracts and specifications for large scale topographic and cadastral mapping and for special projects, such as the mapping of hazards to air navigation in the vicinity of General Mitchell International Airport. During 2006, the County Surveyor performed quality control for the large-scale topographic mapping being prepared by a photogrammetric mapping firm under the current MCAMLIS project for replacement of large scale digital topographic mapping for the entirety of Milwaukee County. This work involved office review and editing of approximately 107.5 square miles of the topographic maps nominally comprising Townships 7 and 8 North, Ranges 21 and 22 East. Following this office review and editing, the maps were field checked for compliance with the accuracy specifications governing the mapping work. Profiles were taken over a selected sample of map sheets, and the field data compared to the horizontal and vertical position of contour lines and other salient features shown on the maps. The comparison indicated that the maps were indeed prepared in accordance with the specifications governing the project, specifically those requiring compliance with National Map Accuracy Standards.

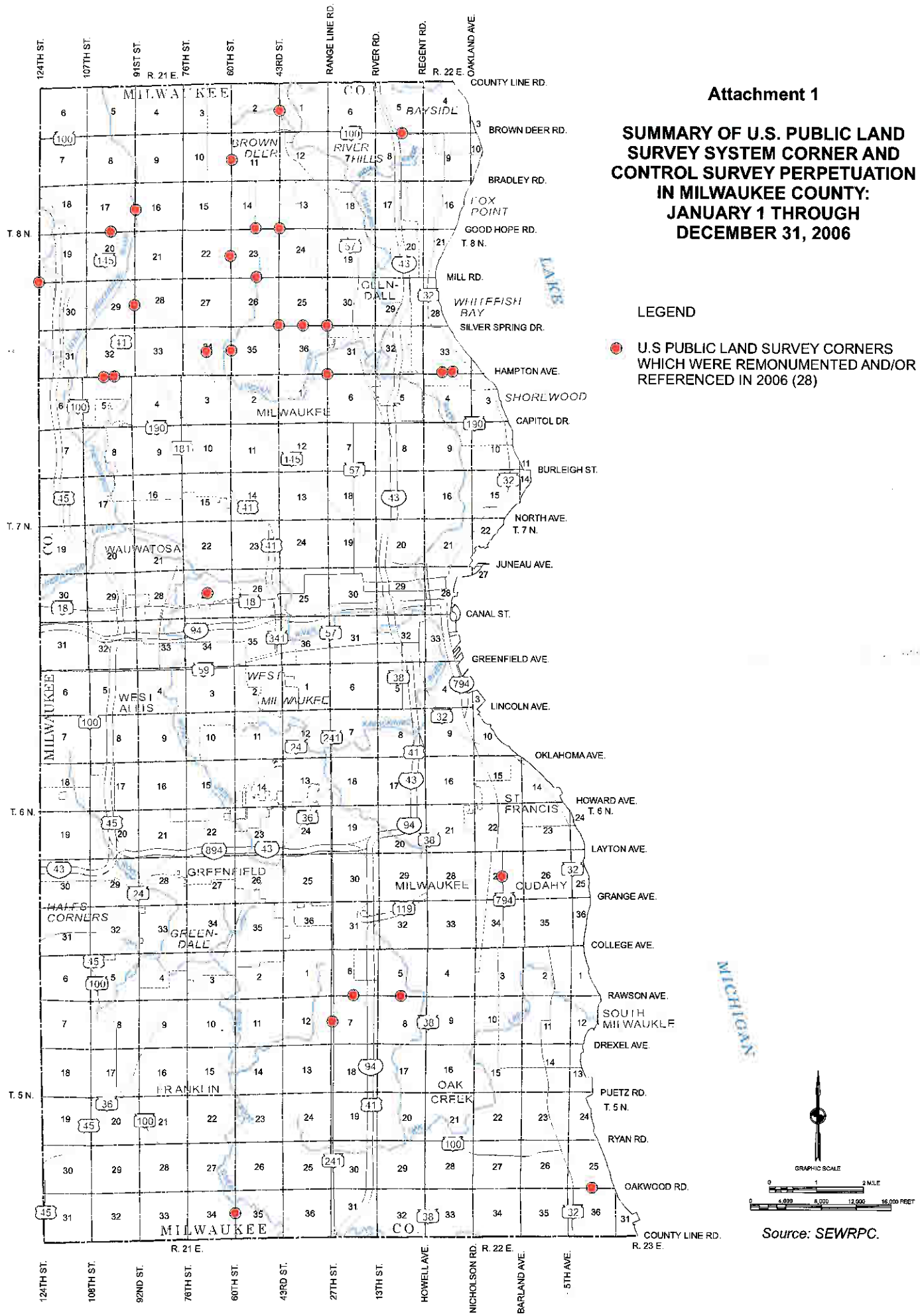
* * *

PCE/KWB/lgh
#124282 V1 - MKE CO. SURVEYOR ACTIVITIES 2006

Attachments

Attachment 1

SUMMARY OF U.S. PUBLIC LAND SURVEY SYSTEM CORNER AND CONTROL SURVEY PERPETUATION IN MILWAUKEE COUNTY: JANUARY 1 THROUGH DECEMBER 31, 2006



Source: SEWRPC.

RECORD OF U. S. PUBLIC LAND SURVEY CONTROL STATION

U. S. PUBLIC LAND SURVEY CORNER 27|27 / 27|27 T 6 N, R 22 E, MILWAUKEE COUNTY, WISCONSIN

HORIZONTAL CONTROL SURVEY BY: ALSTER & ASSOCIATES, INC. YEAR: 1966
VERTICAL CONTROL SURVEY BY: SEWRPC YEAR: 2005

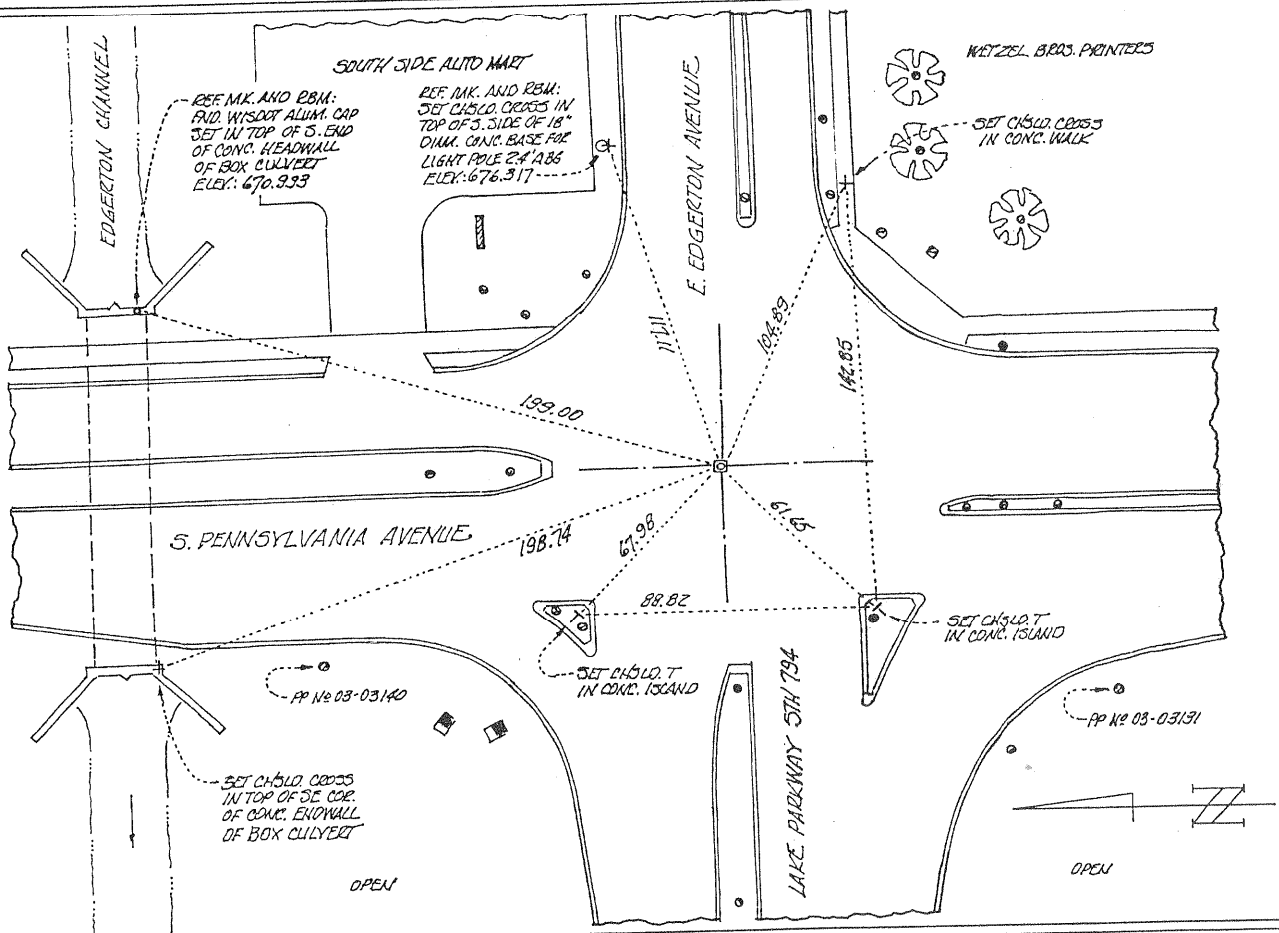
STATE PLANE COORDINATES OF: CENTER OF SECTION
NORTH 354,106.14
EAST 2,567,587.69
ELEVATION OF STATION: 674.049

HORIZONTAL DATUM: WISCONSIN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE
NORTH AMERICAN DATUM OF 1927

VERTICAL DATUM: NATIONAL GEODETIC VERTICAL DATUM OF 1929 THETA ANGLE: +1-27-25

CONTROL ACCURACY:
HORIZONTAL: THIRD ORDER, CLASS I VERTICAL: SECOND ORDER, CLASS II

LOCATION SKETCH:



SURVEYOR'S AFFIDAVIT:

STATE OF WISCONSIN) SS
MILWAUKEE COUNTY)

As Milwaukee County Surveyor, I hereby certify that I set a concrete monument with SEWRPC brass cap to mark the location of this corner following street reconstruction; replacing a concrete monument with SEWRPC brass cap found and referenced by me in November 1998, said monument having been set to mark this corner in November 1997 by Dale A. Oldenburg, Wisconsin Department of Transportation Project Engineer, following street reconstruction; replacing a concrete monument with SEWRPC brass cap set to mark this corner in July 1988 under my direction as County Surveyor by Wallace G. Nienow, S-175; replacing a "P.K." nail in the bituminous pavement surface over a subsurface railroad spike then marking this corner, said nail and spike having been found to be located in agreement with witness marks tied to a "1 1/8-inch steel bar" inside an iron pipe found to be marking this corner in February 1935 by the Milwaukee County Highway Department, said "steel bar" having been found to be located in agreement with witness marks tied to an old cut limestone monument set to mark this corner in 1860 by Henry Sardiner, Surveyor, in the conduct of the remonumentation of the Town of Lake; replacing in turn a wood post set to mark this corner in March 1836 by Elisha Dwelle, Deputy United States Surveyor, in the conduct of the original United States Public Land Survey; that I have referenced the same as shown hereon; and that this record is correct and complete to the best of my knowledge and belief.

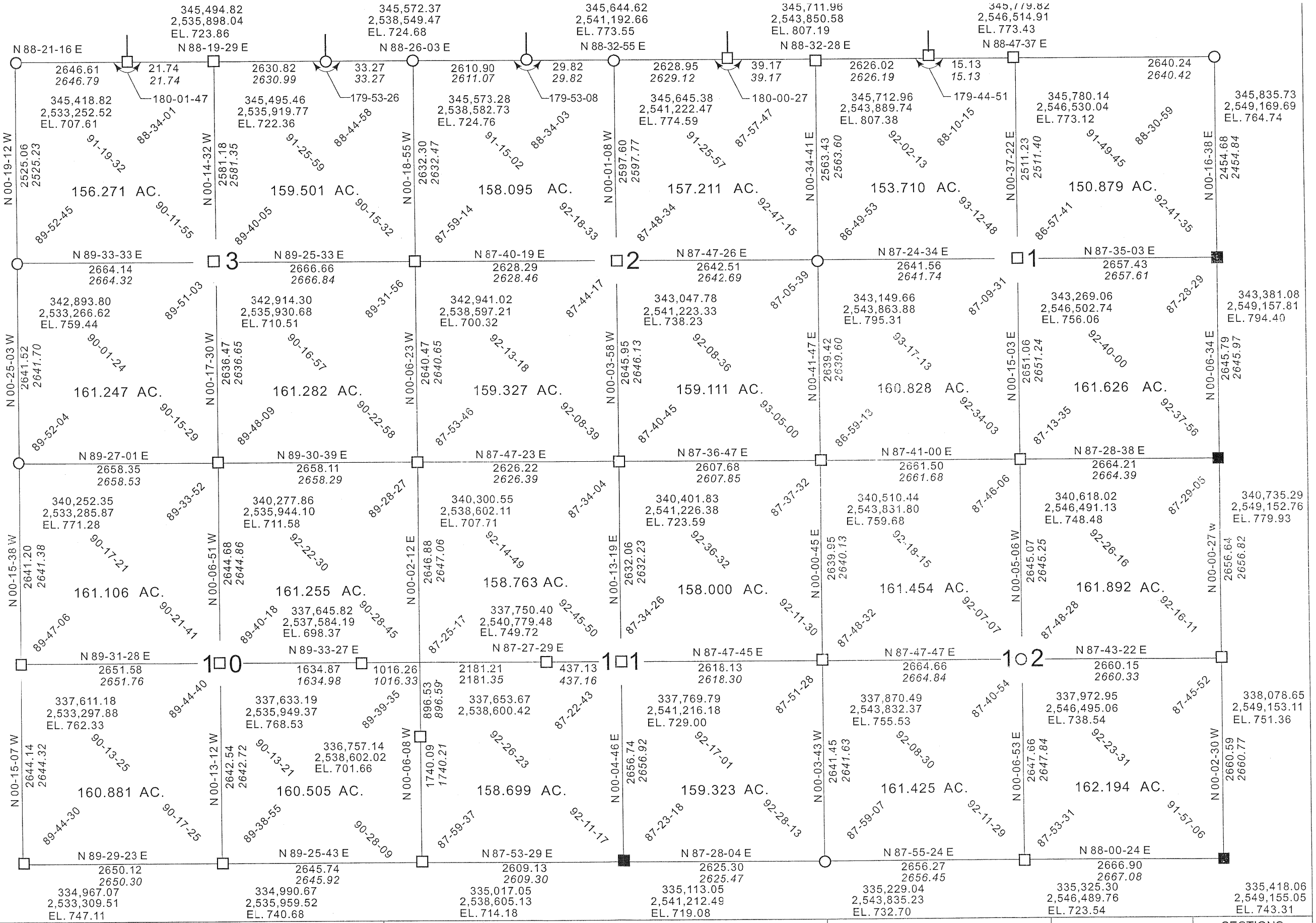
WISCONSIN
K. W. BAUER
MILWAUKEE, WIS.
LAND SURVEYOR

DATE OF SURVEY: 8 November 2005

Kenneth Bauer
REGISTERED LAND SURVEYOR

S - 157

FORM PREPARED BY SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION



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LEGEND

- □ U.S. PUBLIC LAND SURVEY CORNER, MARKED BY 6" x 6" x 36" CONC. MONUMENT WITH SEWRPC BRASS CAP.
- ■ U.S. PUBLIC LAND SURVEY CORNER, MARKED BY 6" x 6" X 36" CONC. MONUMENT WITH BRASS CAP.
- ○ U.S. PUBLIC LAND SURVEY CORNER, MARKED BY OTHER MONUMENTATION.
- △ N.G.S. HORIZONTAL CONTROL STATION.

+01° 23' 18" TN GN

HORIZONTAL DATUM IS BASED ON THE WISCONSIN STATE PLANE COORDINATE SYSTEM GRID, SOUTH ZONE (NAD-27), AND ALL BEARINGS ARE REFERRED TO GRID NORTH.
COMBINATION SCALE AND SEA LEVEL REDUCTION FACTOR: 0.99993362
DIMENSIONS SHOWN IN ITALICS INDICATE GROUND LEVEL DISTANCES.
VERTICAL DATUM IS BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929.
SUBTRACT 580.60 TO PLACE ELEVATIONS ON C TY OF MILWAUKEE DATUM.

CONTROL SURVEY SUMMARY DIAGRAM
FOR
SECTION SURVEYS
IN THE
CITY OF FRANKLIN AND VILLAGE OF GREENDALE
MILWAUKEE COUNTY, WISCONSIN

DRAWN BY: C. A. SYRRAKOS	DATE: OCT, 1993
CHECKED BY: L. H. KREBLIN	DATE: OCT, 1993
APPROVED BY:	DATE: OCT, 1993
REVISED: C. A. SYRRAKOS	DATE: JUNE, 2003
REVISED: J. C. JOHNSON	DATE: JAN., 2007

DOSSIER SHEETS CONTAINING ALL INFORMATION NECESSARY FOR RECOVERY AND USE OF CONTROL SURVEY STATIONS AVAILABLE FROM SEWRPC.

SECTIONS
3, 2, 1,
10, 11, 12
T. 5 N. R. 21 E.
MILWAUKEE
COUNTY

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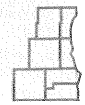


MEMORANDUM

TO: MCAMLIS Steering Committee

FROM: SEWRPC Staff

DATE: February 12, 2007

SUBJECT: **STATUS REPORT NO. 16 ON PHASE I OF THE MILWAUKEE COUNTY FLOODLAND MAPPING PROJECT**

This memorandum sets forth the progress made on Phase I of the Milwaukee County Floodland Mapping project from November 1, 2006 through January 31, 2007. That project phase includes all streams that are to be studied in the County, with the exception of those in the Root River watershed. This status report addresses project progress in the following three major areas:

- Data Acquisition
- Hydrologic and Hydraulic Modeling
- Floodland Map Preparation

Overall, the Phase I portion of the project is about 90 percent complete. Progress is summarized in the attached Exhibit 1 and is graphically summarized on the map attached hereto as Exhibit 2.

DATA ACQUISITION

During the period of November 1, 2006, through January 31, 2007, the following data acquisition activities were carried out:

- As indicated by Exhibit 1, data acquisition activities are substantially completed. When additional data needs are identified as work proceeds, the acquisition of the data is coordinated with the Milwaukee Metropolitan Sewerage District (MMSD), the Wisconsin Department of Natural Resources (WDNR), the Wisconsin Department of Transportation (WisDOT), and the pertinent communities.

HYDROLOGIC AND HYDRAULIC MODELING

During the reporting period, progress on hydrologic and hydraulic modeling for Phase I of the project included the following:

Menomonee River Watershed

- Work continued on the hydraulic modeling of Woods Creek.

Fish Creek Subwatershed

- The preliminary hydraulic model of Fish Creek was refined.

FLOODLAND MAP PREPARATION

Milwaukee River Watershed

- Work continued on refining preliminary draft floodplain boundaries along Brown Deer Park Creek for the 10-, 50-, 100-, and 500-year floods.

Fish Creek Subwatershed

- The preliminary 10-, 50-, and 500-year floodplain boundaries were delineated along Fish Creek.

PROPOSED SCHEDULE FOR COMPLETION OF PHASE I

The factors that have affected, and continue to affect, the schedule for completion of Phases I and II of this project were listed in Status Report No. 14, which covers the period from January 1, 2006 through June 30, 2006.

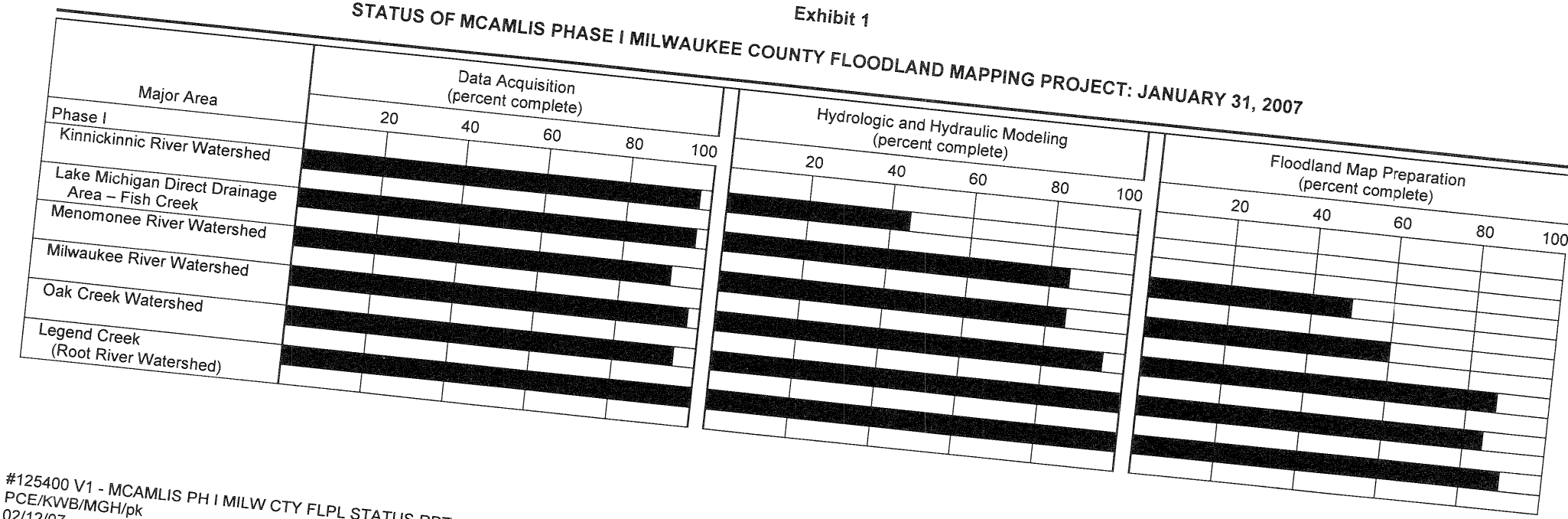
Based on those considerations, completion of Phase I of the floodplain mapping, including all studied streams in the Kinnickinnic, Menomonee, and Milwaukee River watersheds, is scheduled for December 31, 2007.

* * *

#125400 V1 - MCAMLIS PH I MILW CTY FLPL STATUS RPT 16
PCE/KWB/MGH/pk

Exhibit 1

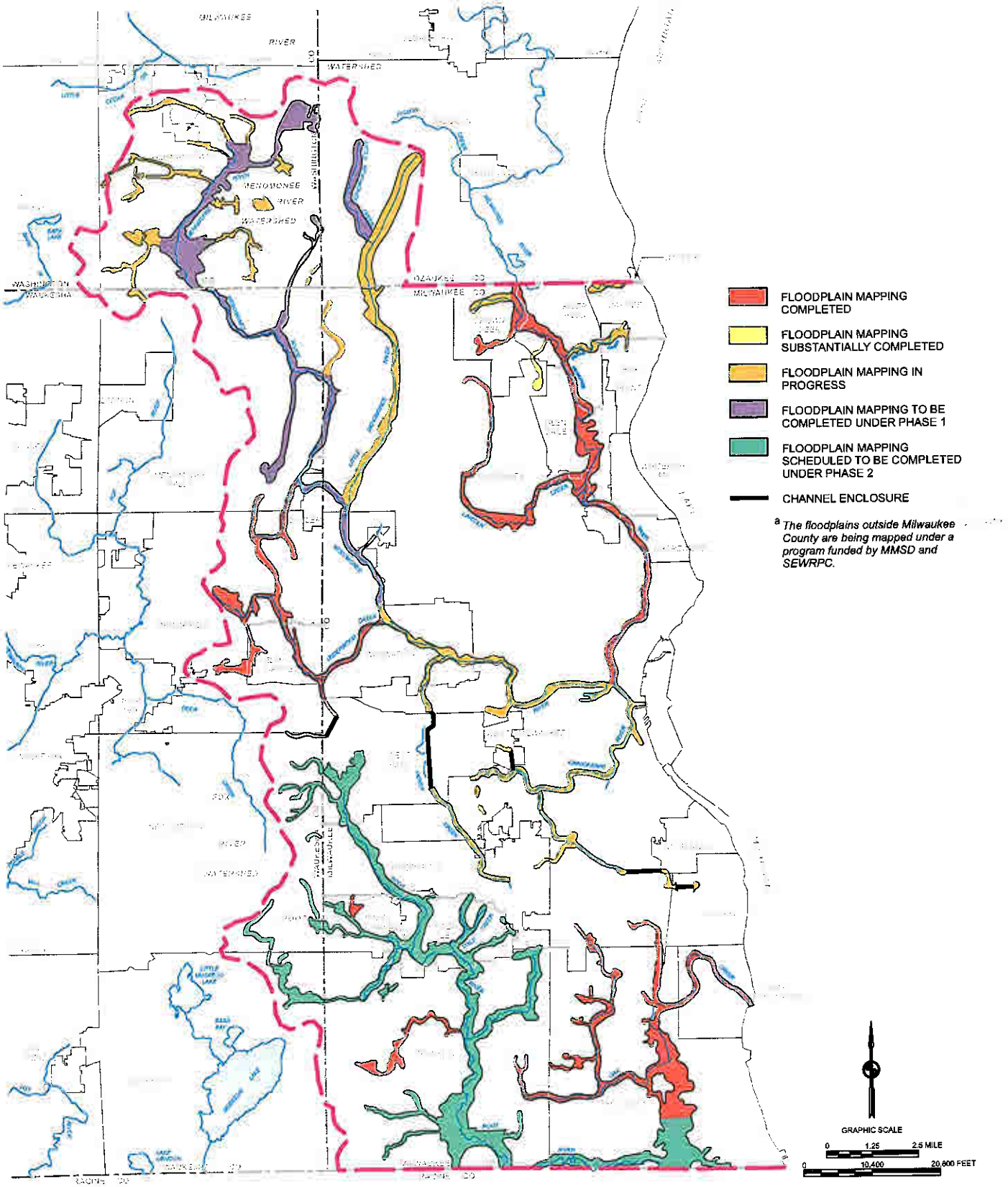
STATUS OF MCAMLIS PHASE I MILWAUKEE COUNTY FLOODLAND MAPPING PROJECT: JANUARY 31, 2007



#125400 V1 - MCAMLIS PH I MILW CTY FLPL STATUS RPT 16
PCE/KWB/MGH/pk
02/12/07

Exhibit 2

STATUS OF FLOODPLAIN MAPPING IN MILWAUKEE COUNTY AND IN MENOMONEE AND ROOT RIVER WATERSHEDS OUTSIDE MILWAUKEE COUNTY: [a]JANUARY 31, 2007



[a] *The floodplains outside Milwaukee County are being mapped under a program funded by MMSD and SEWRPC.*

Source: SEWRPC.

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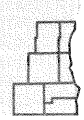


MEMORANDUM

TO: MCAMLIS Steering Committee

FROM: SEWRPC Staff

DATE: February 12, 2007

SUBJECT: **STATUS REPORT NO. 8 ON PHASE II OF THE MILWAUKEE COUNTY FLOODLAND MAPPING PROJECT**

This memorandum sets forth the progress made on Phase II of the Milwaukee County Floodland Mapping project from November 1, 2006, through January 31, 2007. That project phase includes the streams that are to be studied in the County in the Root River watershed except for Legend Creek, which was studied under Phase I. In general, status reports will address project progress in the following three major areas and they will also identify major issues that have arisen.

- Data Acquisition
- Hydrologic and Hydraulic Modeling
- Floodland Map Preparation

Overall, the Phase II portion of the project is about 8 percent complete. Progress is summarized in the attached Exhibits 1 and 2.

DATA ACQUISITION

There were no data acquisition activities during the reporting period as activity was focused on Phase 1 of the project.

HYDROLOGIC AND HYDRAULIC MODELING

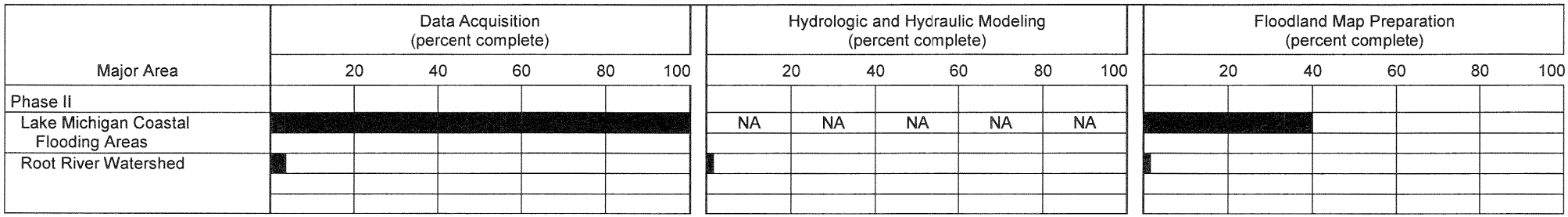
There were no hydrologic and hydraulic modeling activities during the reporting period as activity was focused on Phase 1 of the project.

FLOODLAND MAP PREPARATION

There were no floodland map preparation activities during the reporting period as activity was focused on Phase 1 of the project.

Exhibit 1

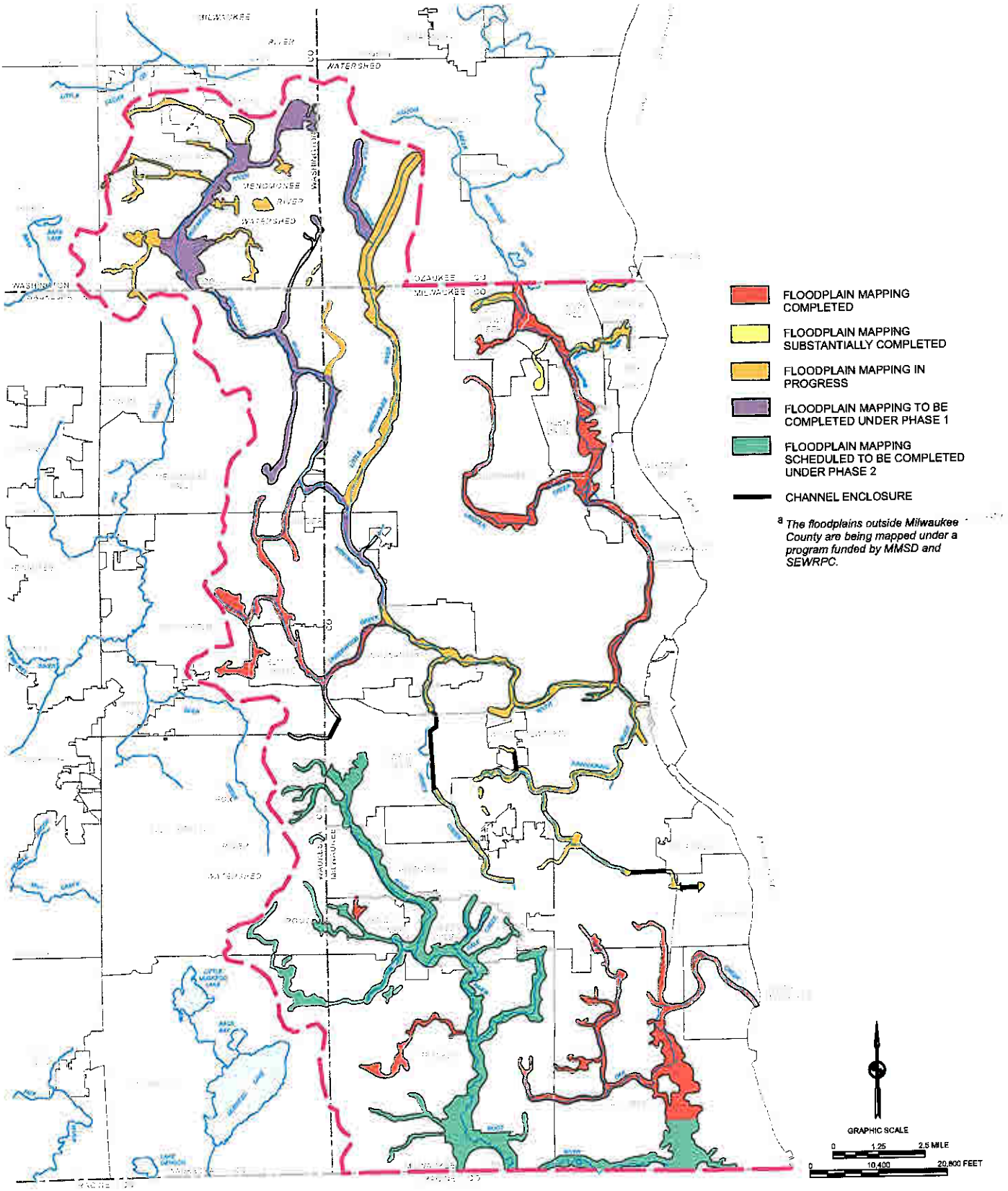
STATUS OF MCAMLIS PHASE II MILWAUKEE COUNTY FLOODLAND MAPPING PROJECT: JANUARY 31, 2007



#125403 V1 - MCAMLIS PH II MILW CTY FLPL STATUS RPT 8
PCE/MGH/KWB/pk
02/12/07

Exhibit 2

STATUS OF FLOODPLAIN MAPPING IN MILWAUKEE COUNTY AND IN MENOMONEE AND ROOT RIVER WATERSHEDS OUTSIDE MILWAUKEE COUNTY: [a] JANUARY 31, 2007



Source: SEWRPC.

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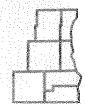


SEWRPC STAFF MEMORANDUM

TO: Milwaukee County Automated Mapping and Land Information System (MCAMLIS) Steering Committee

FROM: Michael G. Hahn, PE, PH, Chief Environmental Engineer, Southeastern Wisconsin Regional Planning Commission

DATE: February 12, 2007

SUBJECT: UPDATE ON STATUS OF THE SEWRPC FLOODPLAIN MAPPING PROJECT FOR MCAMLIS AND THE MILWAUKEE METROPOLITAN SEWERAGE DISTRICT (MMSD) IN MILWAUKEE COUNTY AND BACKGROUND ON THE RELATIONSHIP BETWEEN THE MCAMLIS/MMSD FLOODPLAIN MAPPING AND THE FEDERAL EMERGENCY MANAGEMENT AGENCY DRAFT DIGITAL FLOOD INSURANCE RATE MAPS FOR MILWAUKEE COUNTY

INTRODUCTION AND BACKGROUND

The Federal Emergency Management Agency (FEMA) and the Wisconsin Department of Natural Resources (WDNR) issued draft digital flood insurance rate maps (DFIRMs) for all of Milwaukee County in December 2006. The WDNR staff has prepared the draft maps under its Cooperating Technical Partner agreement with FEMA. During that process, the Commission staff has coordinated with Milwaukee County, affected communities in the County, the Milwaukee Metropolitan Sewerage District (MMSD), and WDNR to ensure that the digital floodplain maps developed by the Commission staff under the MCAMLIS/MMSD project were incorporated in the DFIRMs to the fullest extent possible.

On January 19, 2007, Mr. William Shaw, the MCAMLIS Project Manager, convened an inter-governmental meeting involving Milwaukee County staff with an interest in various aspects of floodplain mapping in the County and Mr. Michael G. Hahn of the Commission staff. At that meeting, Mr. Hahn briefed the County staff on the status of the floodplain mapping program and the relationship of that program to the ongoing FEMA DFIRM project for Milwaukee County.

Mr. Hahn's presentation to the Milwaukee County staff addressed the following four issues as raised by Mr. Shaw:

1. Scope definition and schedule of the FEMA DFIRM project and how that project relates to the MCAMLIS floodway/floodplain mapping project

2. What materials and sources of information are included in the current FEMA product, including the evolution of the mapping and data collection process?

3. What opportunities are available to incorporate improvements into the FEMA deliverables?

4. What impact will incorporating any or all of these options have on the WDNR/FEMA review process already underway?

At the meeting, Mr. Shaw asked Mr. Hahn to prepare this briefing document for the MCAMLIS Steering Committee and to brief the Committee at its March 6, 2007, meeting. Mr Shaw asked that Mr. Hahn address the preceding four issues along with providing a summary regarding the resolution between WDNR, FEMA, and the Regional Planning Commission of past issues related to continuous simulation hydrologic modeling as applied by the Commission staff under the floodplain mapping program.

Responses to the four preceding issues, along with information on the continuous simulation modeling issue, are set forth below.

USE OF CONTINUOUS SIMULATION HYDROLOGIC MODELING TO DEVELOP FLOOD FLOWS FOR USE IN FLOODPLAIN MAPPING

The Regional Planning Commission has used continuous simulation hydrologic modeling for floodland mapping, zoning, Federal flood insurance, and planning purposes for about 30 years. That methodology was considered to be state-of-the-art when first applied and continues to be a state-of-the-art technique owing to upgrades in methodology and computer models. Many of the current floodplains that were developed for streams in Milwaukee County and elsewhere in the Region using continuous simulation methods were approved by the WDNR for local zoning purposes and by FEMA for flood insurance purposes. Those same models, with appropriate updates, were utilized by the MMSD and SEWRPC in the 1990 MMSD stormwater drainage and flood control plan and by MMSD and its consultants in the 2000 watercourse system management plan which updated the 1990 plan. To ensure the greatest degree of consistency between past and current floodland studies and to utilize the best hydrologic modeling techniques available, continuous simulation modeling techniques have also been applied under the MCAMLIS/MMSD floodland mapping project where appropriate.

In 2000, the WDNR raised objections regarding application of the use of the U.S. Environmental Protection Agency HSPF continuous simulation hydrologic model for development of flood flows for use in floodland mapping projects. This was done despite the long history and widespread application and acceptance of such methods, including WDNR approval of the method for the preparation by the Commission of a watershed plan as recently as 1998 and the approval of the methodology by FEMA. Since the time of the WDNR objections, the Commission staff worked with WDNR and FEMA to develop criteria which, if met by a continuous simulation model, would facilitate agency acceptance of the model results. The Commission staff regularly reported on this process to the MCAMLIS Steering Committee, beginning with the first floodland mapping status report in June of 2001.

It was reported in the sixth and seventh status reports to the MCAMLIS Steering Committee, dated January 10, 2003, and May 29, 2003, respectively, that, as part of their review of the hydrologic study for the Pike River watershed in Kenosha and Racine Counties, the firm of Post, Buckley, Schuh & Jernigan (PBS&J), the Federal Emergency Management Agency's (FEMA) map coordination contractor, was developing a set of standards for continuous simulation modeling studies. The final FEMA report entitled "Pike River Watershed Hydrology and Continuous Simulation Modeling Review and Summary," was issued on August 14, 2003. As anticipated by the Commission, the PBS&J review and the resulting

FEMA report supported the continuous simulation modeling procedures as practiced by the Commission and the MMSD.

In December 2003, based on a request from WDNR, FEMA initiated a study to develop additional criteria for continuous simulation hydrologic analyses. The additional study is an extension of the August 14, 2003, FEMA study mentioned above. The final criteria report, entitled "Guidelines for Reviewing Flood Insurance Studies Conducted Using Continuous Simulation Modeling with HSPF," was prepared for FEMA by PBS&J and was issued in April 2005. As was the case with the 2003 Pike River watershed report, the April 2005 FEMA guidelines supported continuous simulation modeling procedures as practiced by the Commission. With the issuance of that report, the acceptability of continuous simulation hydrologic analysis for FEMA floodplain studies was verified and review criteria, were agreed upon by FEMA, WDNR, and the Commission staff.

ITEM 1: SCOPE DEFINITION AND SCHEDULE OF THE FEMA DFIRM PROJECT AND HOW THAT PROJECT RELATES TO THE MCAMLIS FLOODWAY/FLOODPLAIN MAPPING PROJECT

An open house for local officials and the general public in Milwaukee County was held by FEMA and WDNR on December 11, 2006. The preliminary FEMA DFIRMs for all of Milwaukee County were presented at that meeting and comments were taken from those in attendance. The maps were prepared for all streams in Milwaukee County which were included in the current FEMA flood insurance studies for the municipalities in Milwaukee County plus additional streams and stream reaches studied by the Commission under the MCAMLIS/MMSD program and previous Commission modeling efforts and streams studied by engineering consultants since the original flood insurance studies were issued.

As noted in the introduction to this memorandum, the Commission staff has worked with all affected units of government and WDNR to ensure that the digital floodplain maps developed by the Commission staff under the MCAMLIS/MMSD project were incorporated in the DFIRMs to the fullest extent practicable. The streams for which the floodplains developed under the MCAMLIS/MMSD program are shown on the draft DFIRMs include: Lincoln Creek, Southbranch Creek, and the entire Milwaukee River main stem, all in the Milwaukee River watershed; Underwood Creek and the South Branch of Underwood Creek, both in the Menomonee River watershed; Legend Creek in the Root River watershed; and the main stem of Oak Creek and five tributaries in the Oak Creek watershed. Those floodplain areas are shown in red on the map attached hereto as Exhibit A. The Lincoln Creek and Southbranch Creek floodland delineations reflect recently constructed MMSD floodland management and stream restoration projects. The North Branch of Whitnall Park Creek in the Village of Hales Corners is also shown in red on Exhibit A, but coordination with WDNR on the study review is ongoing, so the revised floodplain is not shown on the draft DFIRM.

The statutory 90-day appeals period during which FEMA will accept comments on the Milwaukee County DFIRMs began on February 9, 2007, and will extend through May 10, 2007. At the end of the appeals period, FEMA will issue Letters of Final Determination to each municipality affected by the new DFIRMs. The six-month DFIRM "adoption period" begins about one month after the appeals period ends. The final DFIRMS will be issued several months after the end of the adoption period. Thus, it is estimated that final DFIRMs will be issued near the end of 2007. During the adoption period, municipalities should amend their zoning ordinances to recognize the DFIRMs as the maps to be used for floodland zoning purposes and should revise their floodland zoning ordinances to be compliant with FEMA requirements.

ITEM 2: WHAT MATERIALS AND SOURCES OF INFORMATION ARE INCLUDED IN THE CURRENT FEMA PRODUCT, INCLUDING THE EVOLUTION OF THE MAPPING AND DATA COLLECTION PROCESS?

The information provided above in response to Item 1, as it relates to products from the MCAMLIS/ MMSD floodland mapping project, also answers that part of Item 2 regarding what materials and sources of information are included in the current FEMA product. Where updated data from the MCAMLIS/ MMSD project were not available, it is our understanding that the DFIRM incorporates:

- Floodland mapping information provided by the City of Oak Creek for additional Oak Creek tributaries that were studied by a consultant during preparation of the City stormwater management plan,

- A revised floodland delineation along the reach of the Menomonee River from its confluence with Underwood Creek downstream to its confluence with the Milwaukee River based upon a revised flood profile using the hydraulic model developed under the MMSD watercourse system planning and design efforts, and

- In those areas where new floodland information is not yet available, digital representations of the existing FEMA floodplains as set forth on the flood insurance rate maps and floodway and flood boundary maps for municipalities in the County. Those existing maps were generally prepared in the late 1970s and the 1980s, and, in some cases, may be based on topographic mapping obtained in the 1960s and 1970s.

ITEM 3: WHAT OPPORTUNITIES ARE AVAILABLE TO INCORPORATE IMPROVEMENTS INTO THE FEMA DELIVERABLES?

The Commission staff will continue to work with the affected communities, WDNR, and FEMA to ensure that the DFIRMs include floodlands along as many streams for which maps are being prepared under the MCAMLIS/MMSD program as possible. FEMA has stated that new floodland data, such as the Commission staff is currently developing for Fish Creek and Brown Deer Park Creek in the Villages of Bayside, Brown Deer, and River Hills, could be incorporated in the final DFIRM if requests for Letters of Map Revision, along with the required supporting documentation, were submitted by the municipalities, and WDNR and FEMA approvals were obtained prior to issuance by FEMA of Letters of Final Determination. Those letters are sent to affected municipalities at the end of the 90-day appeals period.

The Commission provided the updated Milwaukee River floodland maps developed under the MCAMLIS/MMSD project along with supporting hydraulic and hydrologic data to WDNR for inclusion in the preliminary DFIRMs and that information is shown on the DFIRMs. During WDNR review of the information submitted, one error in the hydraulic model data was identified. The Commission staff corrected that error and developed revised maps, as necessary. The Commission staff is currently working with WDNR and FEMA in an attempt to have that information directly included in the DFIRM without the need for submittal of a Letter of Map Revision.

For those floodlands which are to be mapped under the MCAMLIS/MMSD project, but which will not be available in time for inclusion on the DFIRMs that have been issued, if requested to do so by the affected municipalities, the Commission staff will work with the municipalities, WDNR, and FEMA to prepare submittal materials to obtain FEMA Letters of Map Revision or Physical Map Revisions that will incorporate the MCAMLIS/MMSD data. This has already been done for Lincoln Creek where, on behalf of the City of Milwaukee, the Commission staff prepared all necessary supporting documentation,

organized in a Technical Support Data Notebook, and provided that to the City. The City forwarded that information to WDNR and FEMA and obtained a Letter of Map Revision modifying the 100-year recurrence interval floodplain limits along the entire length of Lincoln Creek and removing over 1,000 houses from the floodplain. The Commission staff has also prepared submittals for the Cities of Franklin and Oak Creek for streams studied under the MCAMLIS/MMSD program. FEMA is required to conduct reviews of floodplain mapping data at five-year intervals, but Letter of Map Revision or Physical Map Revision requests can be submitted and processed at any time and are not constrained to a set, recurring review schedule.

It should be noted that, while the Commission staff has always anticipated assisting affected municipalities in obtaining changes to FEMA floodland maps to incorporate information from the MCAMLIS/MMSD program, such assistance is not part of the program scope of work. As such, past requests for preparation of supporting data in the format required by WDNR and FEMA has resulted in delays in the MCAMLIS/MMSD work. Future requests could again delay the work, depending on the timing of those requests.

ITEM 4: WHAT IMPACT WILL INCORPORATING ANY OR ALL OF THESE OPTIONS HAVE ON THE WDNR/FEMA REVIEW PROCESS ALREADY UNDERWAY?

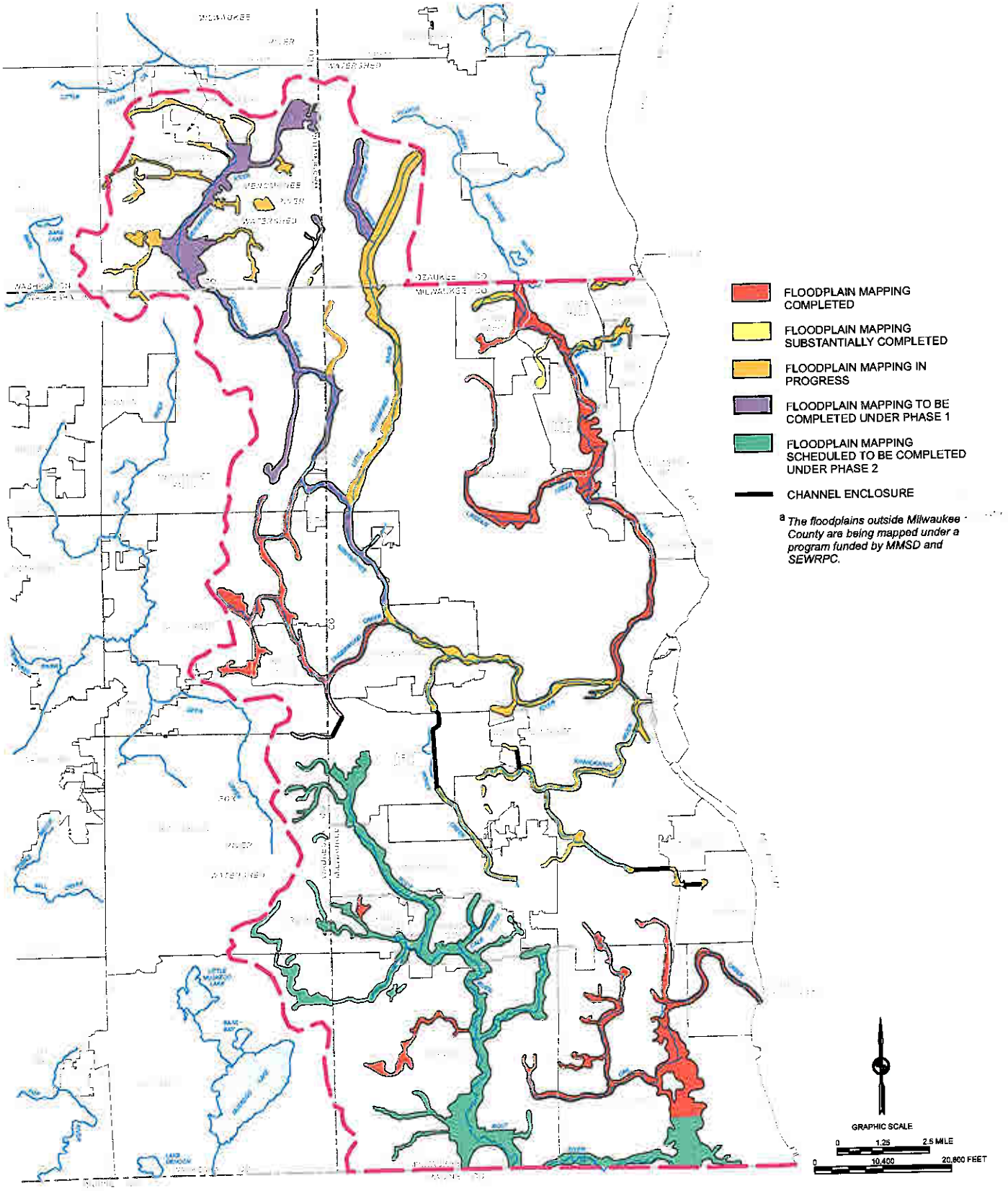
The staffs of the WDNR and FEMA have indicated that the remaining floodland mapping in Milwaukee County will have to be incorporated in the DFIRMs through the Letter of Map Revision/Physical Map Revision process. As noted above, such request can be made at any time. Thus, the final DFIRM that will be issued around the end of this year will not include significant updated floodland delineations developed under the MCAMLIS/MMSD program beyond those already incorporated. However, as noted above, if requested to do so, the Commission staff will assist affected municipalities in obtaining FEMA map revisions.

* * *

#125352 V1 - MCAMLIS STEERING COMMITTEE STAFF MEMO
330-3400
PCE/MGH/pk

Exhibit A

STATUS OF FLOODPLAIN MAPPING IN MILWAUKEE COUNTY AND IN MENOMONEE AND ROOT RIVER WATERSHEDS OUTSIDE MILWAUKEE COUNTY: [a] JANUARY 31, 2007



Source: SEWRPC.

$1.00 Fee Authorized Projects as of Year End 2006

Year Authorized	Project Description	Amount Authorized	Amount Paid 2002-2005	Amount Paid 2006 YTD	Amount Encumbered 2006	2006 Total Amount Paid (Encumbrances + Actual)	Total Amount Paid for Project (2002-2006)	Remaining Unrestricted Balance	Complete
2002	Large Format Scanner	$13,090.00	$13,090.00	$0.00	$0.00	$0.00	$13,090.00	$0.00	Yes
2003	Improvements to Computer System	$240,000.00	$224,553.34	$15,446.66	$0.00	$15,446.66	$240,000.00	$0.00	Yes
2003	Electronic Recording	$45,000.00	$30,550.81	$0.00	$0.00	$0.00	$30,550.81	$0.00	Yes
2003	External Hard Drive/Two SNAP Servers	$40,000.00	$24,997.56	$7,765.09	$0.00	$7,765.09	$32,762.65	$7,237.35	No
2003/2005	Digital Images; Conversion of Microfiche	$600,000.00	$107,021.66	$86,637.55	$0.00	$86,637.55	$193,659.21	$406,340.79	No
2005	Scanning A Card	$50,000.00	$179.00	$23,835.55	$21,165.00	$45,000.55	$45,179.55	$4,820.45	No
2005	Improvements to Computer System II	$250,000.00	$0.00	$118,850.38	$0.00	$118,850.38	$118,850.38	$131,149.62	No
Total		**$1,238,090.00**	**$400,392.37**	**$252,535.23**	**$21,165.00**	**$273,700.23**	**$674,092.60**	**$549,548.21**	

$688,541.79

*Data from John La Fave, Register of Deeds as of 2/26/2007

Notes

* The coversion of microfiche project had an original authorization of $200,000. The current project authorization is $600,000 due to the Steering Committee approving two requests (at meetings held on 11/1/05 and 8/22/06) that increased expenditure authority for this project.

* The 2005 authorization for the improvements to the computer system was $150,000. At the August 2006 meeting, the Steering Committee approved a $100,000 increase in expenditure authority for this project.

2006 Outstanding Commitments as of 2/26/2007
Agency 193-General Government Non-Departmental
Organization 1923-Automated Land Information System
$4.00 Fee

Vendor Name	Description	Amount Authorized	Amount Paid - Prior Years	2006 Amount Encumbered	Amount Paid 2006 YTD	Total Amount Paid 2006 (Encumbrances + Actual)	Remaining Unpaid Balance
SOUTHEASTERN WI REGIONAL	MCAMLIS Floodland Mapping Phase 2	$ 436,000.00		$ 436,000.00	$ -	$ 436,000.00	$ -
DIGGERS HOTLINE	DIGGERS HOTLINE	$ 50,000.00		$ -	$ 50,000.00	$ 50,000.00	$ -
SOUTHEASTERN WI REGIONAL	SEWRPC Water Study	$ 87,262.00			$ 87,262.00	$ 87,262.00	$ -
SOUTHEASTERN WI REGIONAL	County Surveyor3	$ 77,175.00		$ -	$ 77,175.00	$ 77,175.00	$ -
SOUTHEASTERN WI REGIONAL	Topographic Mapping Project	$ 3,252,710.00	$ 1,540,695.00	$ 6,200.00	$ 1,350,190.00	$ 1,356,390.00	$ 355,625.00
CITY OF MILWAUKEE	Cadastral Address Maintenance	$ 74,915.00		$ 57,761.00	$ 17,154.00	$ 74,915.00	$ -
MILWAUKEE COUNTY	Geodatabase Migration	$ 75,000.00		$ -	$ 75,000.00	$ 75,000.00	$ -
MILWAUKEE COUNTY	Enterprise Address System	$ 207,000.00		$ 32,588.00	$ 7,412.00	$ 40,000.00	$ 167,000.00
	TOTAL	**$ 4,260,062.00**	**$ 1,540,695.00**	**$ 532,549.00**	**$ 1,664,193.00**	**$ 2,196,742.00**	**$ 522,625.00**
				$ 3,737,437.00			

Data from Milwaukee County Advantage System and Gary Drent, A&E as of February 26, 2007

MCAMLIS Financial Report		AS OF 12/31/06	TOTALS
12/31/05 Balance (Balance Sheet)*	$	2,957,027.16	$ 2,957,027.16
2006 Revenue Activity (YTD)**			
2006 YTD Activity $1.00		$203,773.00	
2006 YTD Activity $4.00		$811,560.00	
Outside Revenue		$5,010.00	
Remaining Revenue		($5,920.00)	
Total Revenue YTD 2006			$1,014,423.00
2006 Expenditure Activity (YTD) including Encumbrances			
Personnel Services		$0.00	
Services		$2,368,095.16	
Commodities		$219.63	
Capital Outlay		$11,597.56	
Crosscharges		$320,368.75	
Total Expenditure YTD 2006			($2,700,281.10)
BALANCE AS OF 12-31-2006			**$ 1,271,169.06**
Remaining Projected Revenues for 2006**		$0.00	
Remaining Projected Expenditures for 2006**		$0.00	
2006 Projected Balance			$0.00
Remaining Balance as of 12/31/06 (Based on Budget/Projections)			**$ 1,271,169.06**

Remaining Unrestricted Balances Based on 12-31-05 Close		
12/31/05 Balance (Balance Sheet)*	$	2,957,027.16
Remaining Unrestricted Balance $1.00 Fee	$	656,664.79
Remaining Unrestricted Balance $4.00 Fee	$	2,300,362.37

Outstanding Authorized Commitments (Non-Encumbered) 2006-Onward

$4.00 Fee

2006 YTD Project Expenditures for $4 Fee (Encumbrances + Actual)	$	(2,196,742.00)
Additional Authorized Expenditures (Topographical Mapping Project)	$	(522,625.00)
2006 $4 Fee Remaining Projected Expenditures***	$	-
Remaining Unrestricted Balance $4.00 Fee	$	2,300,362.37
2006 YTD Revenue for $4 Fee	$	811,560.00
2006 $4 Fee Remaining Projected Revenues**	$	-
Remaining Unrestricted Balance $4.00 Fee	**$**	**392,555.37**
Remaining Restricted Balance $4.00 Fee	**$**	**915,180.37**

$1.00 Fee

2006 YTD Project Expenditures for $1 Fee (Encumbrances + Actual)	$	(273,700.23)
Additional Authorized Expenditures	$	(549,548.21)
2006 $1 Fee Remaining Projected Expenditures***	$	-
Remaining Unrestricted Balance $1.00 Fee	$	656,664.79
2006 YTD Revenue for $1 Fee	$	203,773.00
2006 $1 Fee Remaining Projected Revenues**	$	-
Remaining Unrestricted Balance $1.00 Fee	**$**	**37,189.35**
Remaining Restricted Balance $1.00 Fee	**$**	**586,737.56**

Note: The $1 Fee Revenue can be used for no other purpose than Register of Deeds projects. Any amount not expended in this manner cannot be used for other MCAMLIS tasks.

Balance includes both $1.00 and $4.00 fee revenue; Approximately 22% of the balance sheet account revenue is attributable to the $1 fee and 78% is attributable to the $4 fee. This percentage break-down is based on 2005 Actual, 2006 Budget and 2007 Budget revenues.

Projected revenues and expenditures are the remaining amount budgeted for 2006 - no modifications were made. Object 9799 was not included in expenditure projections since it is not anticipated to be charged in 2006.

Projected expenditures for 2006 only include changes made for personnel services and crosscharges. 75% of these charges are accounted for under the $4 fee and 25% under the $1 fee. All other expenditures (services, commodities etc) are accounted for in the additional authorized expenditure line.

The amount of the reserve fund balance needs to be determined by committee, ten percent of current budgeted revenues appears to be appropriate. This would equal $110,400 in 2006, of which $88,290 would be for the $4 fee and $22,110 for the $1 fee.

2006 Fiscal Report as of 2/26/2007 -- 1923 MCAMLIS

Rev / Exp	Revenue / Expense Name	2006 Budget Amount	2006 YTD Actual Amount	2006 YTD Encumbrance	2006 YTD Actual + Encumbrance
2299	OTHER ST GRANTS & REIMBUR	$0.00	$300.00	$0.00	$300.00
ST GRANTS & REIMBURSEMENT		**$0.00**	**$300.00**	**$0.00**	**$300.00**
3237	RETAINED FEES -- $4.00 PORTION	$882,400.00	$811,560.00	$0.00	($70,840.00)
3238	RETAINED FEES -- $1.00 PORTION	$220,600.00	$203,773.00	$0.00	($16,827.00)
3239	GENERAL RECORDING FEES	$0.00	($6,220.00)	$0.00	($6,220.00)
RECORD & FILING FEES		**$1,103,000.00**	**$1,009,113.00**	**$0.00**	**($93,887.00)**
4999	OTHER MISC REVENUE	$1,000.00	$5,010.00	$0.00	$4,010.00
OTHER REVENUE		**$1,000.00**	**$5,010.00**	**$0.00**	**$4,010.00**
Total Revenues		**$1,104,000.00**	**$1,014,423.00**	**$0.00**	**($89,577.00)**
5001	DIRECT LABOR CHARGED	$0.00	$0.00	$0.00	$0.00
PERSONAL SERVICES		**$0.00**	**$0.00**	**$0.00**	**$0.00**
6040	MEMBERSHIP DUES	$0.00	$110.00	$0.00	($110.00)
6147	PROF. SERV.-DATA PROCESS	$25,000.00	$4,547.55	$0.00	$20,452.45
6148	PROF. SERV-RECURRING OPER	$2,458,110.00	$1,586,236.26	$515,622.00	$356,251.74
6149	PROF. SERV.-NONRECUR OPER	$0.00	$0.00	$0.00	$0.00
6637	R/M COMPUTER EQUIP	$147,100.00	$236,967.15	$21,165.00	($111,032.15)
6812	MEETINGS OTHER AUTH TRAVL	$5,000.00	$3,447.20	$0.00	$1,552.80
SERVICES		**$2,635,210.00**	**$1,831,308.16**	**$536,787.00**	**$267,114.84**
7915	COMPUTER SOFTWARE	$33,400.00	$219.63	$0.00	$33,180.37
COMMODITIES		**$33,400.00**	**$219.63**	**$0.00**	**$33,180.37**
8558	COMPUTER EQUIPMENT-Repl>$500	$21,800.00	$11,597.56	$0.00	$10,202.44
CAPITAL OUTLAYS		**$21,800.00**	**$11,597.56**	**$0.00**	**$10,202.44**
9706	PRO SERV DIV SERVICES	$280,000.00	$295,368.79	$0.00	($15,368.79)
9742	DAS SERVICES	$25,000.00	$24,999.96	$0.00	$0.04
9799	OTHER COUNTY SERVICES	$103,594.00	$0.00	$0.00	$103,594.00
CROSSCHARGES		**$408,594.00**	**$320,368.75**	**$0.00**	**$88,225.25**
Total Expenses		**$3,099,004.00**	**$2,163,494.10**	**$536,787.00**	**$398,722.90**
Grand Totals		**($1,995,004.00)**	**($1,149,071.10)**	**($536,787.00)**	**$309,145.90**

we energies

2425 S. 35th Street
Milwaukee, WI 53215

Date: February 20th, 2007

To: MCAMLIS Steering Committee

From: John Place, PE
Manager, Engineering and Mapping, We Energies

Re: Diggers Hotline Status Update prepared by Hardy Meihsner

The following status report reflects the activities completed as of February 19th, 2007:

- September 20th, 2006. MCAMLIS report was presented to the Diggers Hotline Board of Directors. Because of the number of Directors that were attending for the first time, it was decided to postpone any decision on how to proceed until the next meeting scheduled for November 15th.

- November 15th, 2006. Diggers Hotline Board of Directors met to consider the report and recommendations from the MCAMLIS prototype. The Board of Directors approved the implementation of Milwaukee County plus: Dane, Kenosha, Ozaukee, Racine, Walworth, Washington and Waukesha County. Project work will start with Milwaukee County. This decision was based on the concern for implementing a process for the counties with the highest growth and consequently the greatest number of locate requests.

- November 28th, 2006. Update report was presented to the MCAMLIS Steering Committee. It was agreed that drafting a model ordinance and arranging for approval by the communities would be the responsibility of the Diggers Hotline consultant.

- December 11th, 2006. Met with Diggers Hotline personnel to establish a work plan and begin drafting contract for Diggers Hotline approval.

- January 16th, 2007. Established a work team to implement the Diggers Hotline project.

- February 14th, 2007. Final draft for Contract submitted to Diggers Hotline for approval. Contract should be approved by February 23rd, 2007. Work should get underway the last week of February in the preparation of the model ordinance.

we energies

2425 S. 35th Street
Milwaukee, WI 53215

Date: February 27th, 2007

To: MCAMLIS Steering Committee

From: John Place, PE
Manager, Engineering and Mapping, We Energies

Re: Request by UWM Libraries to Eliminate the Indemnification Language from the License Agreement for Non-Commercial Use of the MCAMLIS Data

As requested at the November 28, 2006 MCAMLIS Steering Committee meeting, I have reviewed the August 18, 2006 letter from Ms. Karen Jander, Head, Serials Department, University of Wisconsin – Milwaukee Libraries to Mr. William Shaw, MCAMLIS Project Manager regarding the non-commercial use of the MCAMLIS data, with We Energies Legal Department. In her letter, Ms. Jander asked the Committee to reconsider UWM Libraries' request that the indemnification language in paragraph 7 of the License Agreement be deleted.

We Energies is not interested in deleting or otherwise revising the indemnification language in paragraph 7 because it needs the protection that this language offers. We Energies suggests that if UWM Libraries wants to save insurance premium costs, it can have the indemnification obligation under this agreement excluded from its policy.

Michael Compton/DOA/Milwaukee County
02/07/2007 11:23 AM

To Bill Shaw/DPW/Milwaukee County@MILWCO
cc Chad Lillethun/DOA/Milwaukee County@MILWCO, Alexandra Kotze/DOA/Milwaukee County@MILWCO
bcc
Subject Fw: UW-Milwaukee MCAMLIS License Agreement

History: This message has been forwarded.

Bill,

Please see below for Risk Management's opinion on the MCAMLIS and UWM license agreement for automated mapping product access. If you have any further questions or concerns, please direct them to Judy Litscher-Director of Risk Management. Please copy me on all correspondence if you do so. Thanks

Michael F. Compton
Fiscal & Management Analyst
Department of Administrative Services
Milwaukee County, Wisconsin
P: (414) 278-4174
F: (414) 223-1245
mcompton@milwcnty.com

----- Forwarded by Michael Compton/DOA/Milwaukee County on 02/07/2007 11:20 AM -----

Judith Litscher/DOA/Milwaukee County
02/07/2007 11:18 AM

To John Schapekahm/Corp_cnsl/Milwaukee County@milwco
cc Michael Compton/DOA/Milwaukee County@milwco
Subject Re: Fw: UW-Milwaukee MCAMLIS License Agreement

Mike and John,

It would seem to me that UWM employees/professors would be the individuals responsible for giving access to and supervising the students while they are using these maps and thus would be responsible for setting up guidelines, rules and security measures to ensure that the students do not abuse/violate the conditions of this license agreement. Thus, in my opinion, UWM would be responsible for any violations of this agreement by the students. This agreement is with UWM, not the students, and if UWM is purchasing insurance for the students it is to protect UWM, not MCAMLIS. I therefore see no reason to delete the indemnification language in 7. You could add the attached paragraph to 7 to clarify the insurance situation if you feel it is necessary. UWM might feel better about the language if you do.

[attachment "The State of Wisconsin Ins.doc" deleted by Bill Shaw/DPW/Milwaukee County]

Thanks,
Judy Litscher
Milwaukee County
DAS/Risk Management
278-4185
John Schapekahm

John Schapekahm
02/06/2007 05:13 PM

To: Michael Compton/DOA/Milwaukee County@MILWCO
cc: Judith Litscher/DOA/Milwaukee County@milwco
Subject: Re: Fw: UW-Milwaukee MCAMLIS License Agreement

Mike

Actually, I think this is Judy Litscher's domain, so I am copying this memo to her with the request that she take a look at it and give us her thoughts...

John

Michael Compton/DOA/Milwaukee County

Michael Compton/DOA/Milwaukee County
02/06/2007 04:57 PM

To John Schapekahm/Corp_cnsl/Milwaukee County@milwco
cc
Subject Fw: UW-Milwaukee MCAMLIS License Agreement

John,

MCAMLIS has a license agreement with the University of Wisconsin-Milwaukee for noncommercial use of its automated mapping materials. The State only permits UWM to indemnify its employees from liability. This stipulation requires UWM to purchase annual liability insurance to indemnify all student uses and access of this information. UWM has requested that the MCAMLIS Steering Committee consider eliminating this clause from the agreement due to the annual cost of providing the coverage, and having MCAMLIS be responsible for all liabilities related to UWMs misuses and illegal accesses of this data.

Below you will find attached the letter from UWM to the MCAMLIS Steering Committee requesting the change, and the licensed agreement resolution. Would this be within your realm to review and provide a legal opinion on the matter, or is their another member of Corp. Counsel who can work with me on this? Please advise. Thanks

Michael F. Compton
Fiscal & Management Analyst
Department of Administrative Services
Milwaukee County, Wisconsin
P: (414) 278-4174
F: (414) 223-1245
mcompton@milwcnty.com

----- Forwarded by Michael Compton/DOA/Milwaukee County on 02/06/2007 04:43 PM -----

Bill Shaw/DPW/Milwaukee County
01/29/2007 05:34 PM

To Michael Compton/DOA/Milwaukee County@MILWCO
cc
Subject UW-Milwaukee MCAMLIS License Agreement

Michael,

As you may recall at the last MCAMLIS Steering Committee Meeting, I presented a letter (attached) to the Committee regarding requested changes to the UW-Milwaukee License Agreement. The current language in the License Agreement (attached), specifically 'Clause 7' of this agreement is currently

interpreted by the University to require them to purchase an insurance policy to protect it from liabilities associated with providing student access to this data.

You offered to present this material to our Corporate Council to obtain their reading on the matter and establish alternative language if possible that would provide appropriate protections against loss and liability on the part of MCAMLIS, the Utilities or the University. I have been in touch with John Place at We Energies who is pursuing this matter within his organization as well.

Let me know if I can be of further assistance in this matter.

Thank You,

William Shaw
MCAMLIS Project Manager
Milwaukee County Department of Transportation and Public Works
City Campus - Room 427
2711 W Wells St.
Milwaukee, WI. 53208
414.278.2176 phone
414.223.1982 fax
email: bill.shaw@milwcnty.com

[attachment "UWMilwaukee.pdf" deleted by Bill Shaw/DPW/Milwaukee County] [attachment "UWMIlwLicensePolicyReviewRequest.pdf" deleted by Bill Shaw/DPW/Milwaukee County]

The State of Wisconsin, and consequently the Board of Regents of the University of Wisconsin System as an agency of the State, is self-funded for Liability (both public and property) under §893.82 and §895.46 (1) of the Statutes. As a result such protection, as is afforded under respective Wisconsin Statutes, is applicable to officers, employees, and agents while acting within the scope of their employment or agency. Since this is statutory indemnification, there is no liability policy as such that can extend protection to any others.

Request for MCAMLIS Data Sets

(Milwaukee County Automated Mapping and Land Information System)

American Geographical Society Library

CONTACT INFORMATION

Request Date:	Request Time:	Email Address:
Name (Please Print):		
☐ UWM Student	☐ UWM Faculty/Staff	■ Non-UWM/ Public*
UWM ID Number: (Students only)	Department/Major:	
Course Number:	Instructor:	

*MCAMLIS electronic data sets are only available to students, faculty, and staff of the University of Wisconsin-Milwaukee for educational purposes only

REQUEST

Purpose and Study Area:

MCAMLIS preferred format:

- ☐ AutoCAD (.dxf)
- ☐ MicroStation (.dgn)
- ☐ ESRI Shapefile
- ☐ Other _____

Aerial Photo preferred coverage:

- ☐ 2002 Color – Air Photo USA (Request Form REQUIRED)
- ☐ 2005 NAIP Leaf-On 1-meter pixel (stored in: MrSID/TIF)
- ☐ 2005 NAPP Leaf-Off 6-inch pixel (stored in: MrSID)

Aerial Photo preferred file format: ☐ JPEG ☐ TIF ☐ MrSID ☐ Other _____

Preferred medium: ☐ CD ☐ DVD ■ (PantherFile cannot be used for MCAMLIS)

FOR STAFF USE

	Date	Initials
Request taken:	_____	_____
☐ In Person	☐ Email	☐ Phone
Completed	_____	_____
Contacted	_____	_____
☐ In Person	☐ Email	☐ Phone
Delivered	_____	_____
☐ In Person	☐ Panther File (N/A)	
Logged	_____	_____

	# Items	Taxed	Non-taxed
Data/Images	_____		
CD ($3 ea.)	_____	$ _____	$ _____
DVD ($5 ea.)	_____	$ _____	$ _____
Tax (5.6%)		$ _____	
Subtotal		$ _____	$ _____
TOTAL			$ _____

Paid: ☐ Cash ☐ Check ☐ Dir Chg

(OVER)

USER AGREEMENT

In exchange for my use of the MCAMLIS Data Set (the "Data Set"), I, _____ _____ [insert name of Requestor], hereby acknowledge and agree to the following:

(1) The Board of Regents of the University of Wisconsin System on behalf of the University of Wisconsin-Milwaukee has entered into a license agreement for the use of the Data Set. My use of the Data Set is controlled by the provisions in that agreement, which are summarized in the following paragraphs.

(2) I may use the digital maps and prepare or distribute in nondigital form reports incorporating the base maps derived from the digital files only for my scholarly or classroom work at UWM, as described in the above Request. I will not use the Data Set or any information derived therefrom for any commercial or for-profit basis.

(3) I understand that the Data Set offered for use by UWM may not be updated to reflect changes in the underlying maps.

(4) I am expressly prohibited from providing a copy of the digital files to any other party.

(5) I must hold the Data Set in confidence and prevent any other party from having access to the Data Set or to any materials in digital form derived therefrom except as otherwise authorized.

(6) In the event that I modify MCAMLIS derived hardcopy maps depicting the MCAMLIS copyright, I must include a clear and visible explanation of the modification so that the modified map is distinguishable from the original MCAMLIS base maps. I may not misrepresent the MCAMLIS base maps nor state or imply that the modifications were authorized by MCAMLIS.

(7) I agree that at the completion of my use of the Data Sets for the purpose described above, I will either return to the UWM Libraries or destroy any and all digital copies of the Data Sets in my possession.

(8) Failure to collect each requested CD within 60 days will result in a $2.00 per CD non-refundable service charge (in addition to the $3.00 per CD processing fee). This fine will be added to all library fines and may result in a hold being placed on my University records.

(9) **Any distribution or use of the digital base maps in violation of the foregoing provisions shall automatically terminate my access to the Data Set or any materials derived from them and may subject me to sanctions which may include academic or non-academic discipline.**

I hereby certify that the information I provided above is complete and accurate, and that I have read and agree to abide by the above provisions governing my use of the Data Set.

Signature of Requestor: _____

Date materials requested: _____

Goldenrod

EXHIBIT C

MILWAUKEE COUNTY AUTOMATED MAPPING
AND LAND INFORMATION SYSTEM

LICENSE AGREEMENT PERTAINING TO THE NON-COMMERICAL USE OF COPYRIGHTED DIGITAL BASE MAPPING MATERIALS

WHEREAS, Ameritech, the Wisconsin Electric Power Company, and the Wisconsin Gas Company (hereinafter referred to as the "Utilities"), are the joint copyright owners of certain digital base mapping materials developed under the Milwaukee County Automated Mapping and Land Information System (hereinafter referred to as "MCAMLIS"); and

WHEREAS, the MCAMLIS program is presently being administered by the Southeastern Wisconsin Regional Planning Commission (hereinafter referred to as "SEWRPC"), through an employee designated as the MCAMLIS Project Manager; and

WHEREAS, The Board of Regents of the University of Wisconsin System on behalf of the University of Wisconsin-Milwaukee, a unit or agency of government or a not-for-profit organization (hereinafter referred to as the "Requestor"), has filed a request with the MCAMLIS Project Manager to obtain duplicate files of the digital MCAMLIS copyrighted base mapping materials (hereinafter referred to as the "digital base maps"); and

WHEREAS, the Utilities are willing to permit the Requestor to obtain the digital base maps subject to the following conditions and understandings:

1. Subject to the limitations set forth below, the Utilities agree not to object to the Requestor using, reproducing, modifying, and/or displaying the digital base maps; preparing or distributing in nondigital form reports incorporating the base maps derived from the digital files; and distributing the base maps and reports in nondigital form to all parties concerned.

2. The Utilities agree not to object to the Requestor making duplicate copies of the digital base map files for its own internal use. Such files, however, are intended only for the use of the employees and agents of the Requestor; and the Requestor and its employees and agents are expressly prohibited from providing copies of the digital base map files to any other party.

3. The Requestor agrees no to use the digital base maps for any commercial purpose; that is, for any activity that is conducted by the Requestor on a for-profit basis.

4. The Requestor agrees to hold the digital base map files in confidence and prevent any third party from having access to those files or to any materials in digital form derived therefrom except as otherwise authorized by the Steering Committee and Sub-committee by special agreement with the Requestor.

5. The distribution or use of the digital base maps in violation of the foregoing provisions shall be deemed a copyright violation and shall

automatically terminate all rights of the Requestor relative to the digital base maps or any material derived therefrom.

6. The Requestor agrees to reimburse the SEWRPC in the amount set forth in the negotiated cost schedule in connection with obtaining a copy or copies of the digital base maps.

7. The Requestor understands that the digital base maps and materials are being provided AS IS, WITHOUT ANY WARRANTY BY THE UTILITIES AND THE MCAMLIS STEERING COMMITTEE OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, AND WITHOUT ANY WARRANTY OF ACCURACY. The Requestor hereby agrees to indemnify, defend, and hold harmless the Utilities, the MCAMLIS Steering Committee, the SEWRPC, and any other party to the MCAMLIS program and their subcontractors from any claims arising out of the Requestor's use of the digital base maps or any information or materials derived therefrom.

8. The Requestor understands that neither the Utilities or the SEWRPC has any obligation to supplement or update any of the digital base maps provided. Should, however, the Utilities or the SEWRPC provide any updated digital base maps to Requestor, such updated maps shall automatically be covered hereunder.

9. In the event that MCAMLIS derived hardcopy maps depicting the MCAMLIS copyright have been modified by Requestor, the Requestor shall describe such modification and depict the modification as clearly distinguishable from the original MCAMLIS base maps. The Requestor agrees not to misrepresent the MCAMLIS base maps, nor to state or imply that modifications made by Requestor were authorized by MCAMLIS.

AGREED TO:

Requestor: UWM Golda Meir Library

By: [illegible]-Boone, Library Director Date: 5 Dec '06

Utilities

By: _____ Date: _____

* * *

REGISTER OF DEEDS

Milwaukee County

JOHN LA FAVE • Register of Deeds

March 6, 2007

To: MCAMLIS Steering Committee
From: John La Fave, Register of Deeds

Subject: Request to revise spending authorization amounts

The first chart displays two previously approved projects in the Register of Deeds utilizing funds from the $1.00 retained fee.

PROJECT	AMOUNT AUTHORIZED	ACTUAL EXPENDITURES
A. 2003 Digital Images; Conversion of Microfiche	600,000	$193,659.21 as of 12/31/2006
B. 2005 Computer System Improvements I	250,000	118,850.38 as of 12/31/2006

Register of Deeds requests that the project authorization amounts for these two projects be revised so that A will have the amount decreased by $200,000 and B will have the amount increased by a corresponding $200,000. The second chart displays the revised authorization.

Revised Authorization

PROJECT	AMOUNT AUTHORIZED	ACTUAL EXPENDITURES
A. 2003 Digital Images; Conversion of Microfiche	400,000	$193,659.21 as of 12/31/2006
B. 2005 Computer System Improvements I	450,000	118,850.38 as of 12/31/2006

Rationale:

- Currently there are no additional funds available in the $1.00 retained fee account available for immediate spending.
- The highest priority for the Register of Deeds is to make major improvements to its technological infrastructure as recommended by Milwaukee County's Information Management Services Division and Superior Support Resources, Inc.
- Increasing the spending authorization to $450,000 for Computer System Improvements will permit Register of Deeds to implement the I.T. recommendations. See attached Executive Overview.

EXECUTIVE OVERVIEW

On November 2006, Milwaukee County Register of Deeds commissioned Superior Support Resources, Inc. to assess both their current land records system, which was developed by Fidlar Software, and their hardware environment and infrastructure on which it runs. This study was commissioned due to the system outages the department experiences on a daily basis as well as the lack of understanding by IMSD of the configuration and support requirements of the present platform that the Register of Deeds utilizes. The study was broken down into the following deliverables:

1) Review the current configuration of the platform, infrastructure, security and data protection [***Figure 1: ROD – Present State Configuration***].
2) Establish a platform design, estimated cost and high level project plan that will support Fidlar's anticipated application development path while supporting Milwaukee County's technology and security standards where possible [***Figure 2: ROD - Proposed System Architecture Design***].
3) Establish a support process for the new design such that Milwaukee County can proactively identify and prevent system outages. This support process should also include steps to resolve systems outages in the lowest possible amount of time after failure.
4) The amount of daily issues that have plagued the Register of Deed's office were disruptive enough to force some short term remediation in order to sustain the current environment during the study, while allowing the Register of Deed's employees to remain productive.

Note

- This study is not a review of the application's capabilities or of the application's architecture - as such functionality and base level application code were not reviewed.
- Part of the challenge experienced during this study was that significant short term remediation was required to support the existing platform. This process delayed the presentation as well as requiring us to update the design and documentation on a frequent basis. Due to the number of changes, a section detailing the remediation taken has been added to this study.

Proposed Solution

SSR approached the design of the proposed solution based on the following completed tasks.

1) We interviewed Fidlar regarding their intended application development path for the next four to five years.
2) We reviewed systems performance goals based on the anticipated data and user growth of the department.
3) We compared Milwaukee County's Fidlar application configuration against that of another county – whose performance and reliability were at or above acceptable levels.
4) We worked with IMSD to understand their enterprise systems' requirements and reviewed whether the proposed ROD solution could support those standards.

Current Utilization

As of January 2007, ROD has:

1) 2.58 million documents
2) 9.640 million pages (3.74 pages per document)
3) This data is currently taking 697 GB of storage
4) The Microsoft SQL index database is approximately 21 GB

Based on observations

1) ROD is adding approximately 10 years of historical data which is anticipated to add about 427 GB of to the storage requirements.
2) It is anticipated the historical data will increase the database size by 50%.

Based on our review we are recommending the following:

Near Term (*next 12 months*) – [*Figure 2: Recommended System Architecture Design*]

1) VLAN the servers and users into one or two independent IP segments. Allow NIC teaming to increase the available bandwidth between users and servers [*Partially Corrected during remediation*].
2) Migrate to three like application servers (for the Middle Engines and Report Services) (*We can experience a 2 out of 3 server failure and continue to operate, as well one of the server can be decommissioned for piloting new patches and upgrade prior to going live*).
3) Move the production database to a Microsoft SQL Enterprise Cluster (initially in active-passive configuration).

4) Move production data to a high speed enterprise SAN storage (such as Fiber Channel).
5) Separate all public accessible data and place onto low speed enterprise storage. Also, utilize existing server hardware to build an independent application and database server environment. Establish data replication to the public facing environment with a nightly one-way batch update process.
6) Implement route based security for internet submittal (i.e. Allow a one way trust from known public IP address to submit eRecording data).
7) Establish a disk-to-disk followed by a disk-to-tape back up strategy of the production data.
8) Establish system monitoring points to proactively monitor system heath as well as identify imminent or actual outages quickly.

Mid to Long Term (*in the next 24 to 36 months*)

Based on Fidlar's Application Development direction, listed below are the mid to long term recommendations.

1) Migrate users to Microsoft Vista desktops.
2) Migrate database to Microsoft SQL Enterprise 2005.

*note: IMSD is not intending to consider Vista till 2009 unless the need is business critical.

Estimated Costs and Timelines

Based on [***Figure 2: Recommended System Architecture Design***] listed below is the anticipated cost to the county. Please note: the estimates were provided by IMSD, based upon purchasing contracts for the equipment.

High speed production data SAN - 3 Terabytes - $46,000
Slow speed public SAN - 4 Terabytes - $21,000
Slow speed disk-to-disk backup SAN - 4 Terabytes - $21,000

Replace six servers, each at $9000 - $11,000
- Three production middle engine servers
- Microsoft SQL cluster (2)
- Public SQL server

Microsoft SQL Enterprise Cluster licensing - $16,000
Platform Installation Services ~ $18,000
Application Installation and Migration Service (Fidlar) ~ $16,000

Sub-total = $192,000 to $204,000
Plus 10% contingency ($20,000)

TOTAL = $212,000 to $224,000 (midpoint is $218,000)

High Level Project Plan

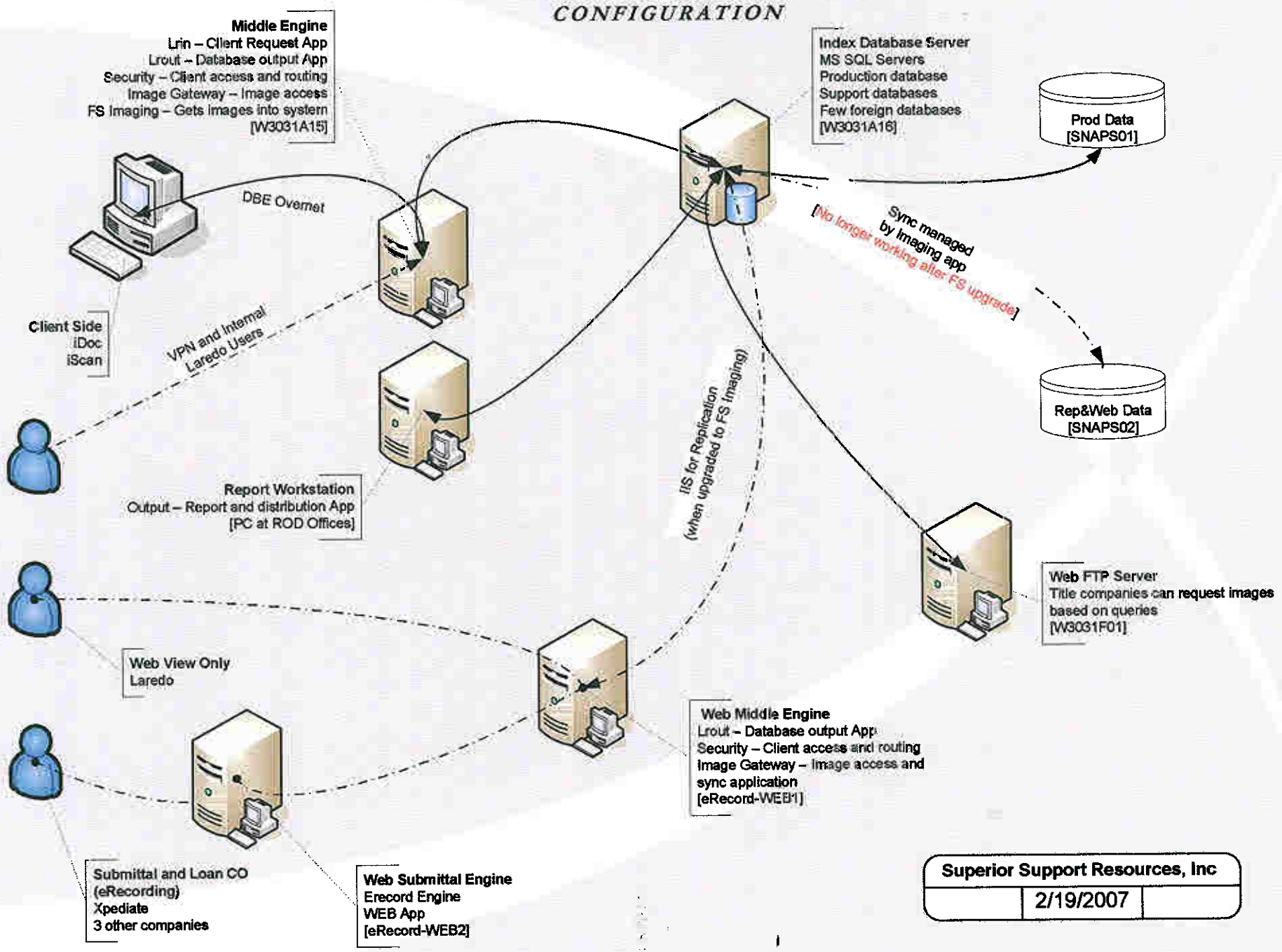
Major Milestones	Timeframe	Tasks
Order Equipment	Week 1	- Final specification of equipment - Order equipment
Configuration of Design, Security, Failover and Migration Planning	Week 2 - 4	- Build migration project plan - Define application install location and failover process by device (Middle engines as well as SQL cluster) - Define Event tracking and monitoring - Define internal (including VPN), external view and submittal security lockdowns.
Build Production Environment	Weeks 4 and 5	- Build Middle Engine Servers - Build Database Cluster - Build Reports Server - Setup Production and Backup Storage - Copy SNAP data for testing
Test Production Environment	Week 6	- Work with ROD on testing with sample users
Production Cutover	Weekend 6 & Week 7	- Copy Snap data to Fiber SAN - Migrate production users and environment - Validate disk-to-disk and disk-to-tape backup.
Prepare Web & Public Environment	Weekend 7 & Week 8	- Sync the production SAN to the public SAN - Prepare WEB, Public Env and FTP - Test environment
Web & Public Environment Cutover	Weeks 9 and 10	- Cutover environment
Test Platform	Week 10 to week 12	- Build a development/test environment utilizing equipment that has been removed from production environment.

*Note: *This proposed approach would leave the production and public environment out of synchronization from Week 6 to Week 8. Public and Web users may not see updates during this timeframe.*

Conclusion

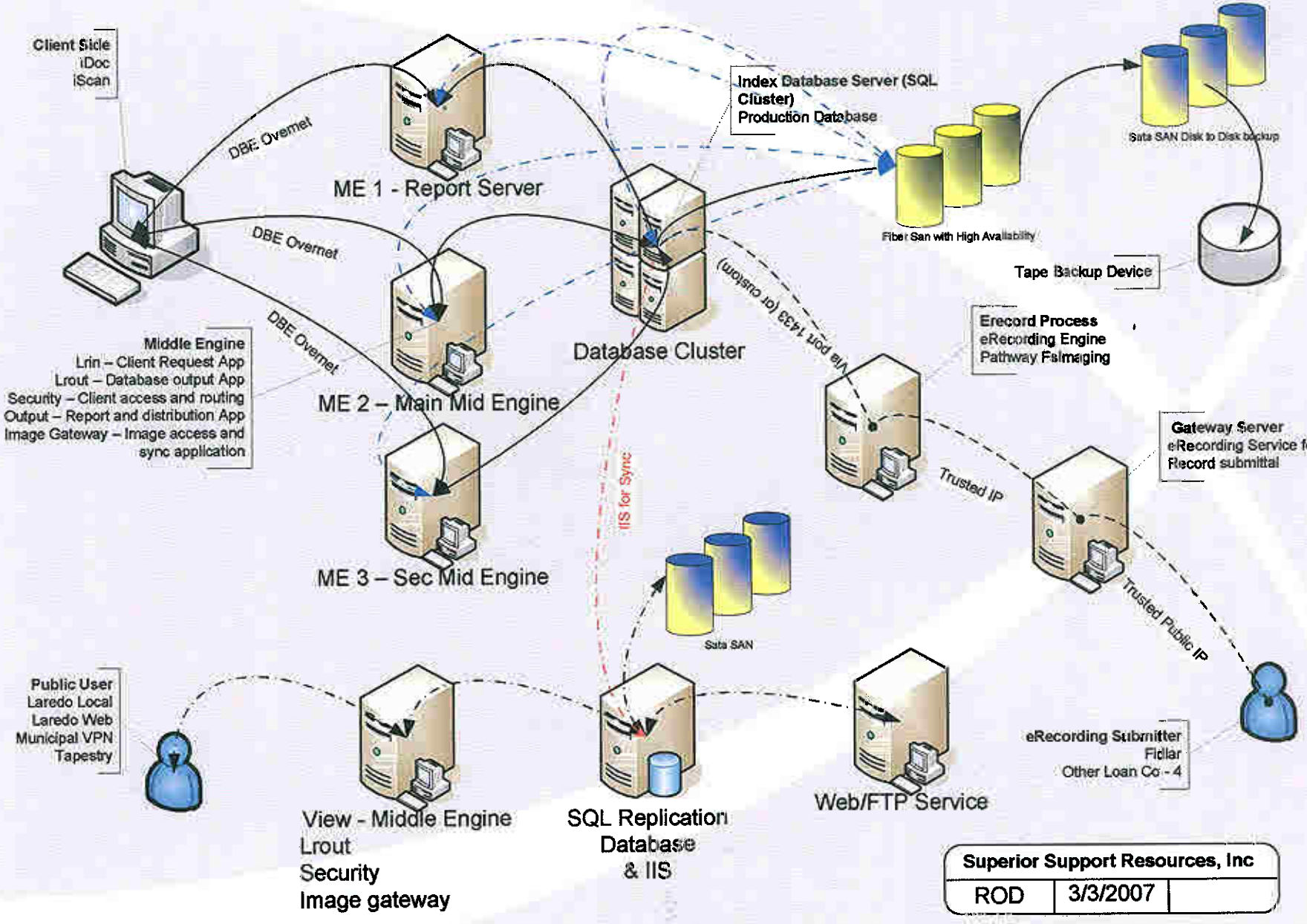
SSR would like to thank Milwaukee County's Register of Deeds office and Milwaukee County's Information Management Systems Department for selecting SSR to provide this study. We would also like to give thanks to Fidlar Software, AmCAD, and the Register of Deeds office in McHenry County, IL for participating in and providing data required to complete this study. We feel, that if the Milwaukee County Register of Deeds is able to implement the recommended changes as well as maintain the environment on an ongoing basis, it will provide the county with a strong foundation to support the department's goals for the next four to five years.

FIGURE 1: ROD – PRESENT STATE CONFIGURATION



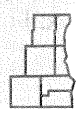
Superior Support Resources, Inc		
	2/19/2007	

FIGURE 2: ROD - PROPOSED SYSTEM ARCHITECTURE DESIGN



SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION
W239 N1812 ROCKWOOD DRIVE • PO BOX 1607 • WAUKESHA, WI 53187-1607• TELEPHONE (262) 547-6721
FAX (262) 547-1103

Serving the Counties of: KENOSHA
MILWAUKEE
OZAUKEE
RACINE
WALWORTH
WASHINGTON
WAUKESHA



February 23, 2007

Mr. William C. Shaw
MCAMLIS Project Manager
Milwaukee County Department of
Transportation and Public Works
City Campus -- Room 427
2711 W. Wells Street
Milwaukee, WI 53208

Dear Mr. Shaw:

This letter is intended to constitute an agreement between the Southeastern Wisconsin Regional Planning Commission and the MCAMLIS Steering Committee governing work to be done by the Commission on behalf of the Committee. This work effort pertains to the acquisition of 2007 color orthophotography for Milwaukee County.

1. **Services to be Performed by the Commission**
   The Commission shall act as agent for the MCAMLIS Steering Committee to acquire 12-inch pixel resolution color orthophotography in the Spring of 2007. The digital orthophotography will be prepared to meet National Map Accuracy Standards for one-inch-equals-200-feet scale mapping.

   The project area covers the entirety of Milwaukee County as shown on the project area map attached hereto. The area covers approximately 88 (eighty eight) 10,000 by 10,000 foot "tiles" on the Wisconsin State Plane Coordinate System grid used for this project. There will be approximately 88 digital orthophoto files in GeoTIFF format with accompanying "world" files prepared for the County. The Commission will also prepare orthophoto files in MrSID format. The Commission staff will review all files to ensure that the appearance, positional accuracy, and other characteristics of the image files meet project specifications.

2. **Time Schedule**
   The orthophotography will be acquired in the Spring of 2007. The Commission will deliver the color digital orthophoto files to the MCAMLIS Project Manager no later than October 31, 2007.

3. **Compensation**
   Major funding for this orthophotography project will be provided by a grant obtained by the Commission from the U.S. Geological Survey. Additional funding in the amount of $2,915 is to be provided by the MCAMLIS Steering Committee to complete the orthophotography for the entirety of Milwaukee County.

   The MCAMLIS Steering Committee agrees to pay to the Commission the amount of $2,915 for the services rendered under the terms of this agreement. The Commission will submit an invoice upon delivery of all digital orthophoto files to the MCAMLIS Project Manager.

If this letter agreement is acceptable to the MCAMLIS Steering Committee, please have the agreement executed on behalf of the Committee, using the signature blocks below, and return a fully executed copy to the Commission for our files.

We look forward to working with the MCAMLIS Steering Committee on this important project.

Sincerely,

Philip C. Evenson

Philip C. Evenson
Executive Director

PCE/JGM/mlh
#125731 v1 - wshaw07let

Enclosure

Accepted on behalf of the MCAMLIS Steering Committee

W. Shaw

William C. Shaw
MCAMLIS Project Manager

Date 2/28/07

Gary E Dennis

Date 2/28/07

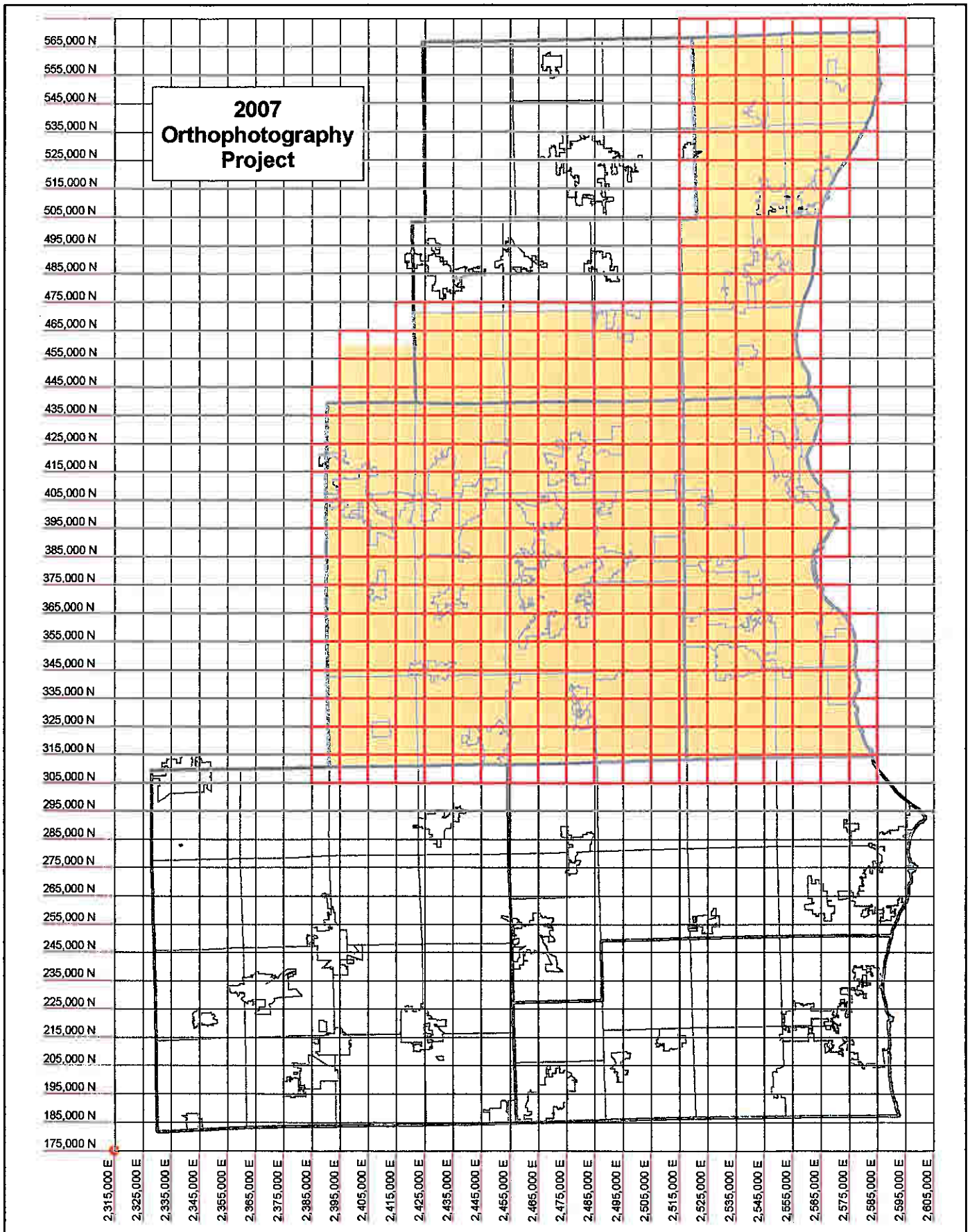


Exhibit A

Area for which 12-inch pixel resolution color orthophotography will be prepared.
Approximately 1,187 square miles and 384 tiles

Map Document: (O:\Orthophoto_Statusmaps\2007OrthophotoStatusMaps\OrthoProjectAreas_10kgrid.mxd)
2/23/2007 – 9:29:04 AM

2007 Orthophotography Project

Contributions from Participating Counties

	Area outside of USGS Footprint	Original Proposal: * Additional cost @ $155 per sq. mi.	Revised Proposal: ** Additional cost @ $112 per sq. mi.
Milwaukee	26 sq. mi.	$4,030	$2,915
Ozaukee	154 sq. mi.	$23,870	$17,263
Waukesha	82 sq. mi.	$12,710	$9,192
Totals	262 sq. mi.	$40,610	$29,370

*** Original Proposal:** Based on costs outlined in e-mail to counties dated June 6, 2006

Original project cost:.....$195,860
USGS grant:.....$155,250

Additional amount
needed beyond grant.....$ 40,610 (approximately $155 per sq. mi. for 262 sq. mi.)

**** Revised Proposal:** Based on recent cost proposal from AeroMetric

Revised project cost:.....$184,620
USGS grant:.....$155,250

Additional amount
needed beyond grant.....$ 29,370 (approximately $112 per sq. mi. for 262 sq. mi.)

---

jgm
02-21-07
#125698 v1 - 2007 Ortho project comparison of costs